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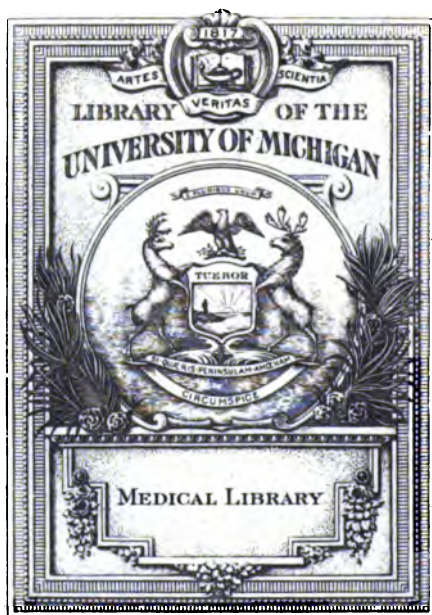
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THE
MONTREAL MEDICAL JOURNAL.

A Monthly Record of Medical and Surgical Science.

EDITED BY

GEORGE ROSS, A.M., M.D.,

Professor of Practice of Medicine, McGill University; Physician to the Montreal General Hospital.

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AND

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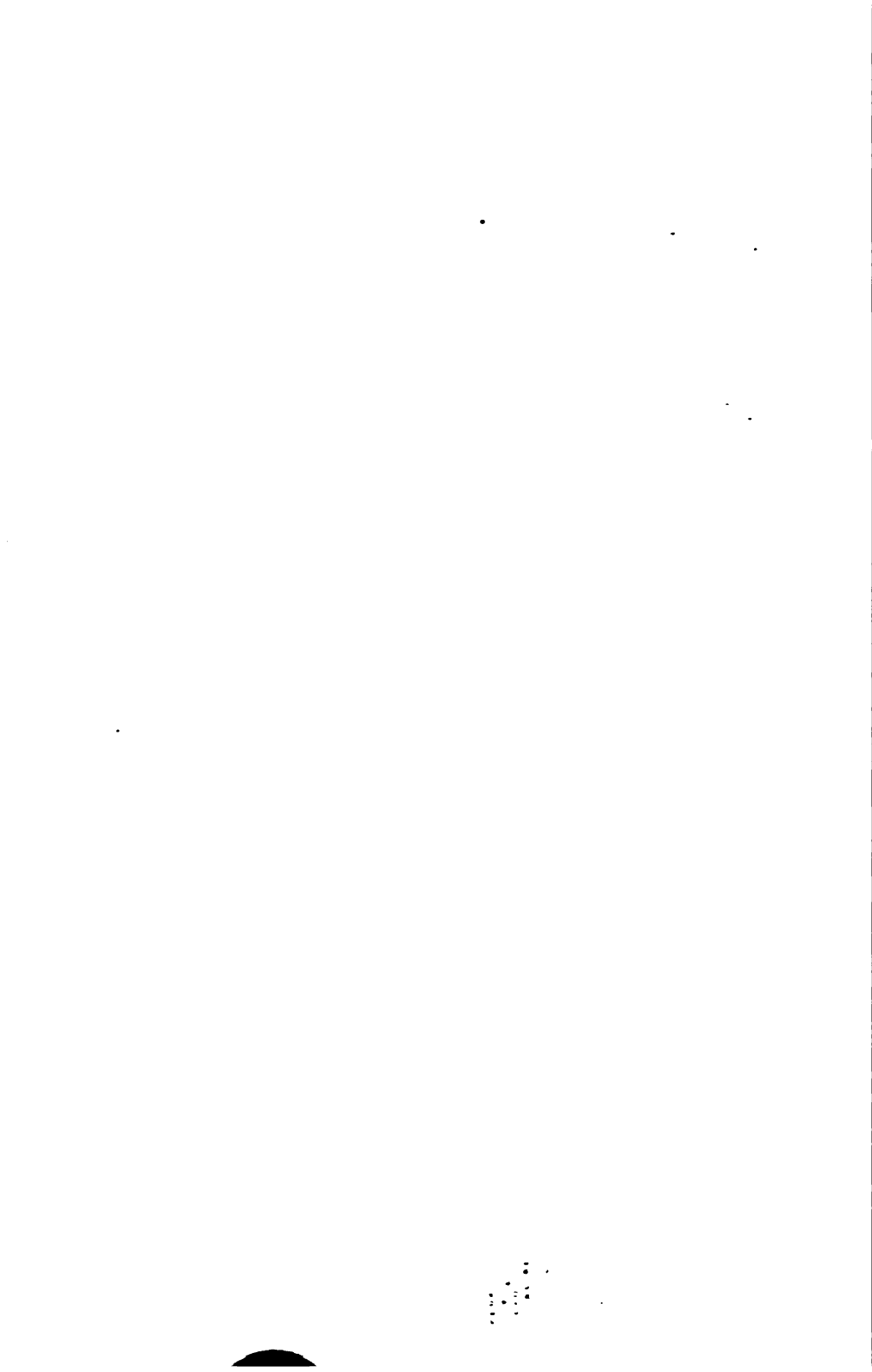
VOL. XX.



Montreal :

PRINTED & PUBLISHED BY THE GAZETTE PRINTING COMPANY

1892.



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A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

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GEORGE ROSS, M.A., M.D.,

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JULY, 1891.

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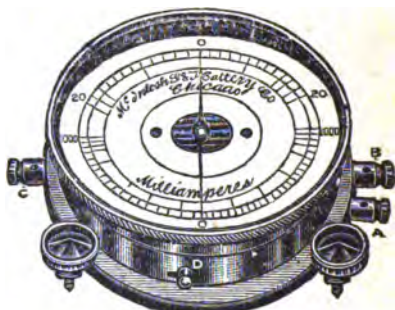
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

JULY, 1891.

No. 1.

Original Communications.

NECROSIS OF THE BLADDER.*

By F. A. L. LOCKHART, M.B., &c.

Fellow of the Obstetrical Society of Edinburgh; Late Clin. Assistant in the Gynecological Wards of the Edinburgh Royal Infirmary.

Mr. President and Gentlemen,—The exact pathology of inflammation of the walls of the bladder, going on to separation of the whole or patches of the wall, and involving one or more of its coats, seems to be involved in so much obscurity, that I think every case coming under our observation should be minutely examined into and discussed in order to bring about some degree of unanimity upon the subject, in its nomenclature at all events. It is for this reason that I have ventured to bring before your notice this evening the following case, which was under my charge in the Edinburgh Infirmary, together with a few remarks upon the subject of necrosis of the bladder.

CASE REPORT.

A. N., single, aged 28 years, waitress in a hotel, was admitted to ward 28, R.E.I., on April 27th, 1890. On admission, she complained of frequency of micturition, with a burning pain during the act, and a bearing-down pain, which was especially bad just after the bladder was emptied.

History.—The patient had a child two years previous to admission, the symptoms coming on just after the labor, which was very protracted. Labor pains began on a Monday, but the process was not completed until the following Friday, when a

* Read before the Medico-Chirurgical Society of Montreal.

doctor was called in, a midwife having been in attendance until that day ! The following is his own account of the case : " When I arrived I found that uterine inertia had taken place, the os was fully dilated, but the head was retained at the brim. Before I saw her, she had frequent calls to micturate, which made passing the catheter unnecessary. I applied the forceps and delivered with difficulty, requiring a great amount of traction. The perineum was badly ruptured. I wanted to suture, but the patient and those about her objected on the plea that she had suffered enough already. There was marked incontinence of urine during convalescence, but this improved materially as she grew stronger, though up to the time when I last saw her she complained of it, and found it to greatly interfere with her work." (He then goes on to apologise for his scanty notes of the case, as she was not a regular patient of his.) The improvement continued until she could retain her urine for three hours during the day, but during the night she had to pass it every few minutes. In two months this improvement ceased, and she got steadily worse up to the date of her admission. The urine has always been very hot, irritating and thick, with a deposit on standing.

State on admission.—The patient makes water every few minutes, during both night and day, but especially often at night. The urine is alkaline in reaction, thick, and deposits pus and phosphates on standing. On making a local examination, the perineum was found to be torn to within half an inch of the anus. The cervix and uterus were normal. The sound only passed four inches into the bladder, and the meatus urinarius was very tender.

Treatment.—This consisted in washing out the bladder once a day with a warm solution of carbolic acid (1-60), together with internal medication, giving belladonna, hyoscyamus, buchu, and half an ounce of a saturated solution of boracic acid three times a day.

On June 12th an attempt was made to repair the perineum by Tait's method, so the local treatment of the cystitis had to be discontinued. As incontinence of urine came on the day after

the operation, the tissues became so sodden that the stitches would not hold.

On July 5th the incontinence was still present. During the previous night the patient suffered from intense pain in the hypogastric region, and about 8 A.M. passed two pieces of membrane, together with a quantity of granular and fibrous débris, per urethram. The incontinence lasted for about two weeks after passing the membranes, but since then she steadily improved under the above treatment, which was resumed a few days after the membranes were passed. The patient was now very weak, so general tonics were added.

On Sept. 6th she left hospital, being practically cured of her bladder trouble, as she could retain her urine as long as she chose.

Description of Membranes.

(a) *Macroscopic*.—The pieces of membrane passed were roughly ovoid in shape, being smooth on one side and rough on the other. One piece was about the size of a silver dollar, while the other was about half that size, the thickness varying from $\frac{1}{16}$ to $\frac{1}{32}$ inch.

(b) *Microscopic*.—Four layers may be made out, but they have no definite lines of demarcation. They may be named as follows: 1. Fibrous. 2. Fibro-granular. 3. Vascular. 4. Musculo-granular.

The *fibrous* layer is composed of elastic and connective tissue fibres running longitudinally. This layer is very thin, and is entirely wanting at some parts.

The *fibro-granular* layer, as its name implies, consists of fibrous and granular material. The fibrous element is composed of both white fibrous and yellow elastic tissue, the latter being scattered throughout the layer. The white fibrous tissue runs in different directions through the specimen, the bundles interlacing with each other here and there. Some of the bundles are large and dense, while in other places only a few fibres are to be observed. The granular material fills up the spaces between the bundles. This contains some connective tissue corpuscles, but in most places the tissue is so degenerated as to be

unrecognizable. In patches here and there, it is even hyaline. This layer merges rather suddenly into the next, viz ,

The *vascular* layer, which contains most of the blood-vessels. These vessels are both numerous and congested, a few being thrombosed. More or less extensive hemorrhages have taken place into the perivascular tissue, which is very granular.

In the fourth or *musculo-granular* layer, muscular tissue may be seen in various stages of degeneration. In one or two places it appears as bundles of fairly normal tissue, but the bundles are isolated in the midst of granular débris, the tissue here being very open in structure.

Structure of the Normal Bladder.—As all here are well acquainted with the structure of the normal bladder, I will dismiss it in a few words.

1. When the bladder is distended, the peritoneal coat extends over the superior and posterior surfaces, as well as the upper parts of the sides, but when the organ is collapsed, it merely covers its upper aspect.

2. The sub-peritoneal coat consists of areolar tissue, and is of varying thickness.

3. The muscular coat consists of three layers, viz., external longitudinal, middle circular, and internal longitudinal. Of these three layers, the first two are well marked, but the last is poorly developed, and at parts some fibres run obliquely.

4. The submucous coat consists of areolar tissue, together with elastic and connective tissue fibres. This coat contains most of the blood-vessels.

5. The mucous membrane consists of transitional epithelium, with a few mucous follicles and racemose glands in it.

The blood-vessels enter the bladder from the base, with the exception of the superior vesical arteries, which run through the upper parts of the posterior false ligments of the bladder.

Nature of the Process.—The process described above has received various names from different writers upon the subject, such as "croupous" or "diphtheritic inflammation of the bladder," "exfoliation of the bladder," "exudative cystitis," "plastic cystitis," etc., none of these terms indicating the pro-

cess by which the tissue is thrown off. The terms *croupous* and *diphtheritic*, in fact, imply the formation of a distinct false membrane. I will not venture to deny that such does occur, for it is well known that it does, but there is, in addition, a process called "necrosis of the bladder." This name has been suggested by Dr. F. W. Haultain of Edinburgh, who, in a valuable monograph upon the subject, has proved the process to be one of distinct necrosis, the tissue being killed and thrown off just as in the case of a necrosed bone.

Now the question is, is this a false membrane or is it an integral part of the wall of the bladder that has become necrosed? I agree with Dr. Haultain and maintain that it is a necrotic process that has occurred in the vesical wall. The structure of the specimens in these cases differs from that of a false membrane. In the latter, you have leucocytes held together by bands of fibrin or connective tissue fibres, if the exudation has become sufficiently well organized; and it may contain more or less degenerated cells from the subjacent tissue. In the specimens from necrosis of the bladder, you find broken down granular cells held together by bands of fully formed white fibrous and yellow elastic tissue. The presence of muscular tissue in different stages of degeneration I hold to be further proof of the process being a necrosis of previously formed tissue, and not of the formation of new tissue.

The exfoliated membrane seems to be replaced by inflammatory tissue which has become fibrous. In fatal cases, the bladder has been seen to be surrounded by an area of inflammation, all the adjacent structures being matted together, forming a kind of secondary sac. The specimen from one of Dr. Haultain's cases shows this very well, there being two whitish patches on it somewhat resembling peritoneum. On closer examination, these patches proved to be pieces of this new fibrous tissue, which had adhered to the exfoliated sac and been torn off with it. A portion of the sac had separated and fallen across the urethral opening, so preventing the escape of urine. This collected behind the sac, forcing it further and further down through the urethra, as well as preventing its rise with the bladder wall

[illegible]

which I here show you), I think you will agree with me that interference with the circulation by pressure of the head and retained urine, and the mechanical injuries inflicted on the tissues themselves by this pressure, form the chief cause of this condition of necrosis. He collected fifty-three cases of necrosis of the bladder in females and three in males. Out of the former, no less than 42 or 79.2 per cent. had suffered from retention of urine, of which number 31 had retroposition of the gravid uterus. All but three were connected with pregnancy, occurring either before or after labour, and where the time is stated, it may be seen that pressure was exerted for from twelve hours to thirty-five days. In one case the retention was accompanied by extra-uterine gestation, while in that recorded by Tulpus no cause at all for the necrosis is given. Orłowski reports a case of vesical necrosis, which followed dysentery, in a girl three years old; and Lemaire reports a case of the same in a patient who had also been suffering from dysentery, these two cases showing that mere lowering of the system will be an active predisposing, if not immediate, cause.

Now as to the cause of the necrosis in the case that was under my own observation. There is no doubt but that the pressure of the child's head for so long a time set up an unhealthy action in the vesical walls, as I have endeavoured to show can be caused by pressure. The patient having such frequent calls to micturate shows that there must have been irritation of the bladder by the head or else over-distension; and the passing of the two pieces of membrane looks as if the pressure was upon the anterior and posterior walls, a piece coming from each. This pressure must have caused paralysis of the sphincter vesicæ, as well as further injuring the bladder, as there was marked incontinence of urine "for some time after labour," it only improving "as the patient grew stronger." From the history of the case, it is uncertain whether there was retention or not, as the frequent micturitions are flows of an over-distended bladder. In cases of retention, the patient merely of a midwife for the greater part of

My own theory of the necrosis in this case is, that the vessels supplying the necrosed areas were so injured that exudation of corpuscles into the surrounding tissues occurred from the congested vessels, and by their pressure cut off the blood supply to these parts, so causing their death. The patches of dead membrane remained attached to the bladder wall by fibres of living tissue, into which one or two very fine blood vessels probably ran, so keeping the tissue from entirely disintegrating. The slight dilatation that the viscus must have undergone each time that it was washed out set up an acuter inflammation and so caused their separation and expulsion. Their presence in the bladder was quite sufficient to account for the symptoms of cystitis that had existed ever since the birth of the child, a steady improvement, ending in complete recovery, setting in as soon as the irritation set up by them was removed.

Some may ask if the necrosis was not set up by irritation of the catheter? I certainly do not think so, although this may have aided in causing the eventual separation of the tissues. Before the catheter was used at all the patient had all the signs and symptoms of a decidedly abnormal condition of the bladder walls, all being traceable to labour.

Diagnosis.—There is absolutely no means of diagnosing this condition from that of ordinary cystitis until the membrane can be seen to be separated, either by its spontaneous appearance at the meatus urinarius externus or by using the urethral speculum. If, however, the patient has all the symptoms of cystitis, following one of the above-mentioned causes, you may suspect necrosis to have occurred.

Prognosis.—This, of course, varied with the general condition of the patient and the extent and depth of the necrosed tissue. In one of the two cases that came under Dr. Haultain's care, the patient recovered, but had complete incontinence. In this case the whole lining of the bladder, including patches of peritoneum, came away. In his other case of complete necrosis, the patient died a few hours after her admission to the hospital. Even after the secondary sac has formed, death may occur from its rupture, as in the case reported by Krukenberg. On the

whole, however, prognosis, as regards life, is good, and unless the whole lining of the bladder has come away, control of the sphincter is regained sooner or later.

Treatment.—There is no special form of treatment for this condition, that indicated for ordinary cystitis being also indicated here, except that you should not wash out the bladder for several days after the passing of the membrane for fear of causing perforation or rupture of the viscus, and you must keep up the patient's strength with stimulants.

OUR PROJECTION OF A SOUND SOURCE IN SPACE.*

By J. W. STIRLING, M.B., &c.

Surgeon Oculist and Aurist to the Metropolitan Dispensary,

The title of my paper would have better been "our present *lack of knowledge*," than our knowledge of the projection of sound in space by the human ear. It is very remarkable how hazy the knowledge of the scientific world is as yet in regard to the functions of the various parts of the inner ear. We know that it is the end organ of the auditory nerve, but when one proceeds to specialize further, the subject is to a certain extent enveloped in doubt. This is the more striking when we compare it with our knowledge of the functions of the eye and its various elements, for in the latter we venture upon well trodden and thoroughly known ground.

Before proceeding to the subject of this paper allow me very briefly to run over the anatomy and physiology of the inner ear, as it will assist in making the subject matter clearer later on.

Hearing occurs in one of two ways,—either through the bones of the head, or *per meatum*—through the bones, as through all solid bodies, by waves of condensation. Let us glance at the latter and usual way.

The acoustic waves enter the meatus and are transmitted from the *membrana tympani* by means of the ossicles of the middle ear to the *fenestra ovalis*. Here the repeated shocks of the stapes set up a series of waves in the lymph of the labyrinth. In order

* Read before the Natural History Society of Montreal, April 27th, 1891.

to allow of the waves being transmitted through the lymph there must be yielding points, and these occur at the fenestra rotunda, the two openings of the aqueduct of the vestibule, the membranes of the aqueduct of the cochlea, and the pores of the blood-vessels in the bone.

Impulses started in the fluid of the labyrinth would thus result in its movements back and forth so as to produce a friction against the end apparatus of the auditory nerve. This friction would be increased by the action of the otoliths found in the fluid. Thus the waves started at the fenestra ovalis would be diffused over the vestibule and into the scala vestibuli of the cochlea, where they would flow to its head, being prevented by the separating membrane from entering the scala tympani.

It is not known certainly to what extent these waves flow through the helicotrema into the scala tympani, nor what are the exact relations between the waves in the scala tympani and those in the scala vestibuli. The basilar membrane is thrown into vibration through the unequal pressure of the moving fluid, and by its vibrations stimulates the nervous structures, ending in it, giving rise to the perception of sounds.

In the same manner the lymph of the semi-circular canals, their ampullæ and vestibuli, is thrown into movements.

The structure of the end apparatus of the vestibule and semi-circular canals is evidently not adapted to the analysis of musical tones like the basilar membrane.

The otoliths found in the ampullæ and also the hairs are not capable of regular sympathetic vibrations; moreover, they form no scale of structures corresponding to the scale of sensations of tone. This fact led Helmholtz to consider that tones—*i.e.*, sounds of regular periodic vibrations—are heard only by the cochlea, while noises—*i.e.*, sounds of short, temporary, irregular vibrations—are procured by the saccule and ampulla. Helmholtz has, however, abandoned this theory since Exner has shown that a tone pitch is also perceived in noises.

The function of the semi-circular canals has mainly to do with the space sense, acting in the preservation of our equilibrium, which, despite emphatic contradictions, Breuer of Vienna has

lately proved very successfully to be the case. Breuer stimulated the ampullæ of the various canals by the galvano-cautery and electricity. He found that on stimulating the utricular end of the ampulla there was a movement of the head in the plane of the canal so stimulated and to the same side as that to which the canal appertained; while if the canal end of the ampulla were stimulated, the movement was in the plane of the canal, but to the opposite side.

However, there is little doubt but that the ampulla and canals have something to do with sound perception, and that likely in the way of perception of the source of a sound. I will dilate on this theory later on.

It is well at the outset to bear in mind that hearing is a mental act. Every auditory sensation is an affection of the mind, recognized as connected with an extra mental reality through the activity of the auditory nerve.

All mental sensations arising from stimulation of the auditory nerve are called sensations of sound. We know nothing directly through sensations either of the structure of the ear or of vibrating strings, or particles of air or of the physics of music.

That there is a certain sense of space or localization attendant on all sense perceptions there can be no doubt, but it is still a question what determines this power of localization. It is undoubtedly a matter of memory, experience and education.

Preyer of Jena, in 1884, made a series of very interesting investigations on infants and very young animals, in order to determine, if possible, the nature and development of this space sense. As a result, he found that at a very early stage of psychical development, animals and children regard the various parts of their body as entirely distinct from themselves. The chick plucks at its own nails, just as it would at the corn thrown out to feed it. The child tried to tear off its finger or divide its foot from its leg. Only later on do they begin to grasp the idea that limbs, etc., appertain to themselves and are distinct from the surrounding world, and then begin to locate each sensory impression correctly in a certain spot or direction.

It would be quite impossible, after this, to have any conscious

sensory impression which will not have a certain sense of space or position in regard to the body, once that this latter is perceived to be distinct and separate from the rest of the universe.

Children are born deaf and only begin to hear about the fourth day after birth. About the eleventh week they begin to move the head in the direction from which a sound comes. A week later the turning of the head in the direction of the source of a sound is sudden and rapid, even when the glance of the eye does not take at once the correct direction, but once the direction was discovered the child hearkens with the closest attention. After the lapse of two or three weeks, the turning of the head toward the source of sound occurs with the certainty of a reflex movement.

Now for the first time distant sound impressions are perceived. The perception of sound through the bones of the head occurs somewhat earlier than the twentieth month. Darwin, Vierordt and Demme give varying periods as to the first perception of the direction of sound by an infant, the extremes being twelve weeks for the earliest and seventeen weeks for the latest.

Guinea-pigs noted sound and its direction the very day of birth, although deaf immediately after birth. The little auricles contracted and moved with great rapidity, comparable to the action of the pupil under light stimulus.

Cats and dogs I have found to give similar results, although they have a tendency to project a sound on their own level even though coming from above them.

We thus see animals are in advance of infants in regard to the early age at which they appreciate sound and its direction. As Preyer remarks, the child hears nothing at first, then hears some sounds indistinctly, later hears many sounds indistinctly. Now very gradually he distinguishes an individual sound distinctly from among many indistinctly, and finally hears much distinctly and distinguishes strong high tones earlier than deep ones. Only when this latter stage is being reached does the infant seem to obtain some certain idea as to the direction from which a sound comes.

This perception of sound and its direction, in common with all

perceptions, is the result of an extremely complex activity of the mind. It is curious to note how, as it were irrationally, the child undertakes the synthesis of the number of sense data which it involves.

The exactness, however, of this space perception varies greatly in the different senses. The eye is very exact, thanks to its great motility and manifold innervation. The skin is not nearly so exact, and varies in different parts of the body. The hearing perceives not only distant sources of sound, but locates sound in the interior of the head, and perceives very slight differences in the pitch of sound by the vibration of the air in the external meatus. Only thus far has the entire tone perception by means of the ear any sense of space, for although these sound sources are perceived, they are rarely projected correctly. Hence this highly developed function is rarely used for the perception of space sense or orientation.

The oldest theory in regard to our perception of the direction of a sound is what is known in Germany as the *recht-links*, or right-left localization. The perception of direction according to this theory depends on the relation of either meatus auditorius externus to the source of the sound, and we obtain our information, especially, if we turn our head in the supposed direction of the sound.

If both ears are stimulated to the same extent, we project the sound source in the median plane anteriorly; but when one ear is stimulated more strongly than the other, the sound source is always projected to the side of the most powerful sensation. In testing this by moving a sounding object in a horizontal circle round the head on the level of the meatus auditorius externus, Rayleigh found that a variation of 1 per cent. in the strength of stimulus between the two ears is perceived. This seems slightly overdrawn, as 10 to 20 per cent. have been the figures asserted by all other authorities, and indeed the marked uncertainty of aural projection would favour the acceptance of the latter figures. Rayleigh further asserts that we perceive the direction of noises mixed with musical tones more easily than that of pure tones.

The position and shape of the auricle is an important factor in this right-left localization, for the projection of a sound is much more faulty in those cases where the ears are closely applied to the side of the head ; at the same time, in those cases in which the auricles project from the side of the head, the posterior projection is generally false. Simple proof of this effect of the auricle may be obtained by placing the hollow of our hands in front of the ears, when any sound perceived will invariably be projected backwards, no matter from what direction it may come.

That the power of orientating ourselves in space with reference to external sounds varies in different individuals cannot be doubted. It is no doubt an acquired art, and depends on attention and experience, as well as the accurate interpretation of the smallest details. Just as in the matter of the vision of savages, which is proverbially so acute, it is a question of attention and practice in the interpretation of minute indications, and the perpetuation of this type through the requirements of their life.

Weber thought we could tell the direction of a sound by means of the perception of the varying swing of the membrana tympani. He instanced, in support of this theory, that eccentric projection is hindered if the meatus is filled with water. It hinders, but does not prevent the perception of the direction ; about this I will speak later on.

These facts of the perception and projection of a sound to the side of the greatest intensity gave rise to the theory of acoustic shadows or of the amount of covering power which the sound produced by waves of a given intensity entering one ear would have upon the sound produced by waves of a different intensity entering the other ear.

According to Kessel, the best binaural audition is produced when the sound proceeds from the mesial plane anteriorly ; the best monaural when the projection is exactly in a line with the meatus, at right angles with its opening. Kessel further advances the function of the pinna as being the main factor in determining the perception of the direction of a sound. He divides the pinna into five auditory districts which are sharply defined from

one another, and are characterized by the fact that they convey sound to the ear with a different intensity, according to the direction of the head at rest or during movement. These districts for the perception of sound are : anterior, posterior, superior, inferior and central or direct. The different auditory districts are brought into use by means of suitable movements of the head ; and in association with the sense of sight, the direction from which the sound proceeds is ascertained.

One more point in connection with this right-left localization. Steinbach has shown that both binaural and monaural audition may be direct, indirect, or mixed, depending on the direction of sound source. In the direct, the sound reaches the ear directly ; in the indirect, only after one or more reflections ; in the mixed, both with and without reflections. In binaural audition, both ears may be stimulated by the direct or indirect, or one ear by direct, the other by indirect sound waves.

The intensity of the perception of hearing depends upon the sum of the sound waves which are reflected from the pinna into the meatus ; the size of the reflecting surface of the pinna, on account of its complicated form, being almost the same for the different directions of the sound waves. The direction of sound, Steinbach holds, is decided by the right-left theory.

If the source of the sound is in the district of direct audition, then its direction can be defined with tolerable certainty ; nevertheless, each individual has for this judgment his own standard, which depends upon the angle which the two auricular surfaces make with each other. The smaller the angle the more certain the judgment.

Since the best binaural audition occurs when the sound source is directly in front in the visual direction, one involuntarily turns the face to the person speaking.

If the angle which the two auricles form is less than 60° , and this is usually the case, one hears better with one ear than two, and hence turns one ear in the direction of the source of sound. Changes of direction in direct audition are detected by alteration in the intensity of sound, whereas in indirect audition other factors assist.

Judgment, together with the assistance of auditory impressions which are from experience familiar, play a principal part.

In mixed binaural audition, in which direct waves of sound only reach one ear whilst both ears can be struck by indirect waves, one can only vaguely determine the direction of the sound, and its origin is placed in the district of that ear which is struck by the direct sound waves.

If we wish to define more accurately the direction of the sound in indirect or mixed binaural audition, we are assisted if we turn our head so that the sound is received from the district of direct binaural audition or from the boundary of two adjacent auditory districts.

Daily experience teaches us that secondary conditions enable us to assist the power of localization.

It is of interest to note here that a patient of Charcot's, in Paris, had absolute insensibility of both drums and auditory canals. When his eyes were closed he could not detect the direction in which a watch was held although he heard it distinctly.

These various theories having the right-left localization as their foundation were all unsatisfactory, not accounting for many projections. Münsterberg further elaborated the theory by bringing the semicircular canals into consideration as a factor. He considers these canals to be stimulated by sound waves, which stimulation gives rise to reflex impulse for movements of the head, and upon this latter the localization of the sound source depends. It is a theory which fails, as one can readily see, when it comes to a question of the localization of two simultaneous sounds from different directions. The right-left localization theory, without this addition of Münsterberg's, can account for the perception of two simultaneous sounds coming from different directions, as v. Kries has shown to be possible, at any rate, after a little practice, and if the sounds are of different pitch, the root of the matter being the comparison of the intensity of each sound in the two ears. In some individuals the prompt and accurate localization of the direction requires, as Hensen says, something more than the shadow theory to account for them. So much, then, for the right-left theory of localization.

There is one point where it fails badly, and that is, the projection of any special point in the median plane; a sound stimulating each ear with equal intensity is referred to the median plane, but no particular point in the said plane can with certainty be projected. One can hence perceive that without the addition of some new theory of the functions of the auditory organ, a discrimination of the various sound directions could not be explained by the right-left theory.

Preyer of Jena, in 1887, instituted a series of very exact investigations in regard to the extent and limitations of our power of appreciation of the direction of sound source. He examined a series of individuals in the same manner repeatedly. The sound tests were a toy called "cri-cri" and the tick arising from opening and closing the current on a telephone. Both sounds are short and sharp, so that the factor of reflexion can be excluded, as it is scarcely noticeable. The tests were applied in the thirteen different areas of the head, as follows:

- (a) Three primary axes, the vertical, sagittal and transverse.
- (b) Six secondary axes—antero-superior and postero-inferior, antero-inferior and postero-superior, right inferior and left superior, left inferior and right superior, right anterior and left posterior, left anterior and right posterior.
- (c) Four tertiary axes—right antero-superior and left postero-inferior, right antero-inferior and left postero-superior, left antero-superior and right postero-inferior, left antero-inferior and right postero-superior.

Giving thus with both terminations of their areas twenty-six tests. Preyer measured the false projection when it occurred by the angle which the axis, in which the test was made, formed with the axis in which it was projected by the person being tested.

I will not reproduce his tables, as they are far too vast for a paper like this. The conclusions I will give. Out of 2,080 tests he obtained 29.4 per cent. correct, so that chance is excluded. The greatest number of failures were when the sound came from below. Never was a sound from the left projected to the right. Right and left were with far more certainty distinguished by the ear alone than anterior and posterior or superior

and inferior. In the transverse plane 38.7 per cent. were correct, in the horizontal plane 35.8 per cent., and in the sagittal 31.5 per cent.; the percentage falling in the sagittal plane, as here the right-left localizing is wanting. Again, a greater number of superior projections were correct than of inferior; 37.6 per cent. of various superior projections to 15.5 per cent. of inferior. Lastly, Preyer found 32.5 of the posterior projections were correct to 18 per cent. of the anterior.

The results of the examination also showed—

(1) That each of the twenty-six directions had been correctly projected; true, some very seldom, *e.g.*, anterior inferior.

(2) That no sound coming from the left side was ever projected to the right and *vice versa*—*e.g.*, left antero-superior for right antero-superior.

(3) That no sound coming from the right or left was ever projected in the median plane.

(4) That the converse of the last fact holds—*i.e.*, no sound from a point in the median plane was projected to the right or left.

(5) Every error which arises in the median plane occurs with nearly the same frequency on either side of the head.

Further, certain directions very rarely or not at all are mistaken for certain others—*e.g.*, inferior for anterior; inferior and superior, inferior and antero-superior, anterior and postero-inferior never, and the corresponding directions on the right or left side only rarely.

On the contrary, many directions are more frequently mistaken for certain others than correctly projected—*e.g.*, anterior for antero-superior, posterior for postero-superior, etc.

The greatest errors were those of 180° , and occurred only in the median plane. The most frequent errors were 35.3° to 45° , and, as one would suppose, the number of mistakes were about the same on either side of the head. The large percentage and size of the errors in the median plane are, as one can readily see, caused by the elimination of the right-left meatus projection. The correct percentage (31.5) in the median plane seems to require something more than the right-left theory or any of its

modifications detailed already to account for it. More especially when one compares this percentage with that of the transverse plane (38 per cent.), which it so nearly approaches. In this we are assisted by the study of comparative anatomy, as Preyer has pointed out.

Fishes have no labyrinth, only vestibule and semicircular canals, yet they hear, and, despite the absence of an external meatus, they undoubtedly perceive the direction from which a sound comes. Hence we must infer two things :

1st. It is by their semicircular canals that they perceive the direction of the sound.

2nd. That the course of the impulse must be through the bones of the head or by head conduction.

Further elaborating the first factor, it is quite comprehensible how that one semicircular canal will be stimulated more than the other two, or sometimes two more than the remaining one, according to the direction from which the sound stimulus comes.

Bone or head conduction is an established fact that requires no further proof here ; but one can understand how, from the denser medium surrounding the fishes head, this would be more favoured than in animals living in the air.

Sound waves from different directions and of varying intensity would in every vertebrate skull set in motion the endolymph of the membranous semicircular canals, with corresponding rapidity and intensity of vibration, and isochronously on account of the curvature of every part of the canal wall.

Now these motions set the hairs of the ampulla into sympathetic vibration, and one has only to consider that by this stimulation of one ampulla through the vibration of the fluid of the corresponding canal a different sound sensation, although of the same pitch, intensity and quality, must arise than that caused by the same stimulus acting on another canal and ampulla, as it is another set of nerve fibres which is stimulated. Considering these factors, one cannot but hold this difference of sound sensation as being one of space.

The animals have, without exception, for innumerable generations, considered, if the nerves of the ampulla, say, of the left

horizontal canal, were more powerfully stimulated than those of the other two, that the sound came directly from the left, and in like manner for the other two ampullæ, the superior and posterior, the sound must come from above or behind.

The specific energy of the ampullæ is a sense of space in connection with sound, and more precisely a sense of direction, the perception of a particular direction depending on the particular one or pair of canals which may be stimulated most powerfully as follows:

1. The horizontal canal is most powerfully stimulated by sound from a direction on the same side in the horizontal plane.

2. Superior vertical canal, which has a direction outwards and forwards, is most markedly stimulated by a sound from above, in front, and to the same side.

3. Posterior canal, which has a direction downwards, backwards and outwards, perceives most acutely sounds from below, behind and the same side.

If two sounds of different intensity come from opposite sides of the head, the sound is projected in the direction of that of the greatest intensity. If both sounds are of equal intensity and pitch, they are projected in the median plane. Preyer applies this theory to all the high vertebrata.

Preyer further says that in any case all three canals are stimulated, of course those of the side nearest the sound source more powerfully than those of the opposite side, and again of those canals of the more powerfully stimulated side, one or two more powerfully than the remaining, depending on the direction from which the sound came. This hypothesis being correct, then must all those sound directions be frequently confused with one another, in which a nearly equally strong stimulation of the different ampullæ occurs—*e.g.*,

Anterior—Ant.-sup.

Post.—Post.-inf.

Post.-inf.—Inf.

Ant.-sup. left—Sup. left.

Ant. left—Sup. left.

Ant. left—Ant.-sup. left.

Post. left—Post.-inf. left.

This Preyer found to be really the case.

The decisions were very uncertain and varying *in re* antero-

inferior, left antero-inferior, and right antero-inferior directions. Preyer considers this due to the stimulation of all the ampullæ being of equal intensity.

By normal hearing, a sound from the left is never projected to the right, and *vice versa*, on account of the much greater strength of the stimulation of the ampulla of the side nearest the sound. For the same reason, no sound from the left or right is normally projected in the median plane, nor one in the median plane projected to the right or left.

Preyer next experimented with both ears closed, first by pressing in the tragus, or by filling the meatus with a solution of sodium chloride. The results arrived at were as follows :

1. The correct right and left projections which had been so good before were now uncertain. This being clearly to be expected since the horizontal canals are more easily affected by the movement of the stapes produced by ærial sound vibrations from the right or left than are the other two canals, the stapes lying in an almost parallel plane to the horizontal semicircular canal. Hence the cutting off of the ærial transmission by the meatus must annul the effects of this factor.

2. The absolute transposition of right to left or of either side to the median plane, and *vice versa*, only occur as with open ears, for the first few trials. This holds even in a large series of experiments ; hence one cannot discover a difference in audition by head conduction as compared to the ordinary audition.

3. The recognition of the direction is greatly increased in difficulty, likely from the absolute decrease in intensity of the sounds, and correspondingly relative decrease of the difference of intensity.

4. The number of correct decisions is greatly lessened.

In regard to the perception of sound direction with one ear closed, Chladni found, in 1802, that sound is always projected to the side of the open ear. (If bone conduction is equal normally to ærial, then sound would appear to come from the side of the closed ear.)

The idea is false that in usual audition the sound is entirely conducted by the labyrinthine fluid. Chladni showed, in 1802,

that much is heard even after both ears are stopped. (Ewald has just demonstrated on pigeons that after removal of the labyrinth they perceive sounds acutely; hence that the trunk of the auditory nerve possesses power of sound perception. Only after destruction of the trunk were the pigeons completely deaf.)

Kessel says that with open ears the head conduction plays an important rôle, and without it the localizing of a sound source would be far more uncertain than it is.

Diminishing the intensity of the sound until it was no longer perceived with closed ears, then opening the ears, was the plan adopted by Preyer. The decisions were very uncertain and incorrect. He considered the bone conduction from the meatus to be better than from other parts of the head, and hence this method only partly shut off factor of bone conduction.

Preyer wants more experiments in this series. It is likely that repeated practice would render better results. This is Preyer's theory, and there is no doubt something in it.

The chief fault I find is, that it is hard to believe that with errors of 180° in the median plane there can exist a special physiological mechanism for the appreciation of the direction of sound. This fault, however, may be simply due to lack of education of this special division of the organ of audition, this lack of education extending through generations.

Gruber, in 1869, expressed the opinion that the semicircular canals were not exclusively an organ of the sense of space, and was induced to believe that they were concerned rather in a participation of the hearing function. There can be no doubt, after Breuer's experiments and the results therefrom attained, that they are at any rate partially organs for the perception of our position in space and maintenance of our equilibrium, might they not be also organs for the proper projection of sound in space—organs for space perception in a double sense? Add to this the two factors of bone conduction and their existence as the main part of the hearing organ in fishes.

That the eyes assist in the appreciation of the direction of the sound there can be no doubt, and that they have filled up or

possibly have caused this deficiency in function of auditory projection is quite likely. Högyes holds there is a close connection between the eyes and the semicircular canals. He says he has demonstrated that a peculiar bilateral reflex connection exists between the muscles of the eye and the ampullary nerves, in conformity with which a reflex stimulus is transmitted by each labyrinth to certain muscles—from the left vestibular nerve to those turning the left eye upwards and outwards and rotating it inwards, and to those which turn the right eye downwards and inwards and rotate it outwards, the right vestibular nerve acting in exactly the opposite way.

H. von Kreiss has, during the past year, pursued a series of investigations much on the same plan as Preyer's. Judging that possibly some modification in the quality or intensity of a certain sound, according as it came from in front of or behind the head, would assist in localizing the source, Kreiss varied the sound and also the distance from the head. He held that this modification in the quality or intensity could be learnt, and hence the projection would be really *per meatum* and fall under the category of the right-left theory. This power of localization from some modification he called "mediate localization." However, his experiments after this manner showed the uncertainty of median localization, as also the precaution with which the results must be judged.

Kreiss conducted all his experiments in the median plane, holding that these points would be sufficient to prove the possibility of a special sound space mechanism, whereas the number of points examined by Preyer were only confusing. He used castanets and the telephone at a distance of twenty centimetres from the head. The antero-posterior differentiation varied greatly, but the superior-inferior was more accurate. Practice in some cases seemed to improve, in other cases to fail.

Kreiss and his assistant projected almost always the posterior in front. In the posterior and inferior, both in front and behind, one-third were false. Kreiss, to completely eliminate the factor of mediate localization, used seven different instruments, when, instead of producing a diminution of correct decisions, it caused

an increase. A slightly prolonged sound was more accurately projected than a short one.

Kriess considers the capability of a median projection cannot be doubted, and it depends on (1) practice, (2) the nature of the sound, and (3) some disposition. Among a number of persons he examined there was one who was absolutely correct even at different examinations, and this one had no special talent for music, so that any variation in tone might have assisted.

It was easier to distinguish change of direction if one sound was produced very shortly after the other, say half a second.

Another peculiarity is the decided tendency which exists for certain errors—*e.g.*, some people invariably project a sound from behind as coming from in front, and in front always correct, also *vice versa*. Again, in others the sound source is projected much higher than it really is, although this appeared by preference when the weak telephone click was used, and more rarely when the castanets were employed.

Kriess gathered from his investigations that an almost certain median localization (at least in so far as a decision of posterior from anterior) *can* occur under certain conditions—*i.e.*, if the sound stimulus from examination to examination is changed both in regard to its quality, intensity and distance. On the other hand, one cannot help but notice the extraordinary uncertainty which appears if the same localization and other conditions are imposed.

The theory of a mediate localization (*i.e.*, by the slight modifications of a sound arising from its position) receives a check, for it is the very opposite to find that the certainty of localization is favoured by altering the sound from time to time.

There are here two facts worthy of mention. 1st, One could decidedly speak of the indirect nature of median localization if the distinction of the location were positively decided by the nature of the chosen sound stimulus—*i.e.*, a weak sound projected by preference behind and a loud one in front. This did not occur in any of Kriess' cases. Only in one case were nearly all projections accurate, even after repeated investigations. From this, one might conclude that if a physiological mechanism existed

for the appreciation of sound direction, with it also the quality and intensity of the sound would come into consideration, and would be of influence in forming our decisions.

Just a few words now about the double direction perception.

Using two sounds of different quality, a fife note and a hissing sound, Kriess found both in front or both behind were correctly localized, but so soon as one was in front and the other behind, a degree of uncertainty appeared. The fife note behind and the noise in front were correctly, as a rule, distinguished; but with the fife in front and the noise behind, both were projected behind. There was no doubt but that the noise from behind interfered with the localization of the tones in front.

By the opposite arrangement the sounds were much more certainly projected, thus clearly proving the power of a double localization. The results varied greatly, but clearly showed, nevertheless, the existence of this power.

Of course all the foregoing experiments were performed on individuals with their eyes shut. The great fault I find with both Kriess' and Preyer's investigations is, that in their endeavours to develop a new theory, they seem entirely to have lost sight of the shape and position of auricle, which there is no denying greatly influences the projection of a sound source.

In my own investigations it became very evident, inasmuch that before beginning my work I could pretty clearly see where the greatest tendency to error would exist. As a test in my own work I used Politzer's acoumeter, which gives a short, sharp sound.

My experiments on cats and dogs I gave up as fruitless in one sense. One idea struck me that in animals with deficient accommodative power of the eye we find the auricle highly developed and very mobile, as in the horse, cat, dog, guinea-pig; in these animals the eye is markedly hyperopic, and for near objects the nose, as we continually see, is used as almost a third eye. On the other hand, in birds, where the accommodative power is more highly developed than in any of the vertebrata, being necessitated by their rapid flight, in these the auricles are absent, as also in aquatic animals.

In my own investigations the results were very variable, and only differed from those recounted above by the fact that I got a larger percentage of correct results. There were quite a number who, at any rate, at first projected the posterior sources most correctly, but these were generally endowed with auricles which were rather flatly applied to the head. Again, there was no doubt that the intellectual status had a good deal to do with the decisions. In those of rather dull mental condition, there was a hesitation generally terminating in a false statement.

Thinking and studying the matter well over, one can detect in all the theories some pretty big gaps. But just as the projection of an object to its correct position in space by the human eye brings into action many different factors, so I think the same holds good for the ear. For as in the eye an object makes itself perceived by stimulating the optic nerve, so in the ear the auditory nerve perceives the sound. The size and distance of an object is partly judged by the strain on accommodation by the projection of the two eyes and by experience.

In the ear the accommodation act is performed by the tensor tympani muscle, as Stricker, Hensen, Backendahl and Pollak have shown.

In the eye, we judge of the direction of an object by movement of the eye and the portion of the retina stimulated; in the ear we have not this, but we should reasonably look for a sound projection apparatus, and judging by the comparative anatomy of the fish, for instance, as already noted, it would lie in the semicircular canals or ampullæ, assisted also by the meatal audition, as factors in the latter are the auricles, which I dilated on in treating of Kessel's theory, and also the walls of the meatus and membrana tympani, if one were to judge by the case of Charcot's already noticed, where, in anæsthesia of the walls of the meatus and tympanic membrane, the perception of the direction of sound was lost.

As a brief resumé, let me say—

1. The binaural audition plays the main part in our appreciation of the direction of a sound source, as evidenced in the elaboration of the right-left theory, with its modifications by

Kessel in regard to the function of the auricle, also possibly by the sensory state of the meatus wall. In this connection may be mentioned Münsterberg's oculo-aural theory. The failure of these theories is in connection with the projection of any source in the median plane.

2. To fill this gap, Preyer and Kriess brought out and elaborated the theory of projection by the ampullæ of the semicircular canals, which, judging by comparative anatomy, appears correct.

The fault here is that it is, as I have already said, hard to believe an error of 180° possible with the existence of a physiological mechanism for the appreciation of direction; but against this we have to put those cases where the projection was accurate, also some possible weakness of discrimination or lack of attention. It is likely that through lack of use or education the organ has never assumed its full function.

APPENDICITIS—OPERATION—DEATH ON THE TENTH DAY.

By GEO. E. ARMSTRONG, M.D.,

Instructor in Surgery, McGill University; Surgeon to Montreal General Hospital.

F. S., aged 30, consulted me about April 15th for a chronic, persistent diarrhoea, from which he said he had suffered for about fifteen years. Loose, watery, mucus stools; colicky pains, and also a pain in right hypochondriac region. He had previously been under my care for diarrhoea in 1884 and 1885. For about six years I had not seen him.

On examination, I found the abdomen flaccid and compressible over the left two-thirds. The right third was tender and painful, and a hard, well-defined mass could be distinctly outlined in region of ascending colon. Pain first felt at beginning of year. I advised him to enter the Montreal General Hospital with the view of having further advice, possibly an exploratory incision. Has lost 13 lbs. in weight since January, 1891. During the next two weeks the condition of the right side changed very much. There evidently had started up a fresh and active inflammatory process; so much so that when seen in consultation

by Drs. Geo. Ross and Shepherd on his admission to hospital the right side of abdomen and right lumbar region were so tender that anything like a satisfactory physical examination without an anæsthetic was out of the question. He walked with difficulty. He was considerably emaciated. Had never been confined to bed. He was a printer by trade. Had inflammation of lungs and scarlatina in childhood. Father died of gout at age of 69; mother and one sister and one brother are alive and well.

On the 1st May, 1891, assisted by Dr. Shepherd, I made a lateral incision on the right side, over the tumour. On entering the peritoneal cavity I was for some minutes puzzled to make out what the condition of things was that I was to deal with. In the iliac region the omentum was closely adherent to the parietal peritoneum to the right of the cæcum and below. Above I could pass my finger around into the right loin and determine that the kidney was normally placed and not adherent to the tumour. The liver and gall-bladder could be also excluded. I then carefully separated the omentum from the parietal peritoneum to the right of and below the cæcum. The walls of the cæcum were thickened and covered with inflammatory tissue. The appendix was with difficulty recognized, as its walls were extremely thickened and oedematous, and its base of attachment to cæcum fully one and a half inches broad. I now carefully separated the adhesions on the right side of the cæcum which bound it down to the iliac fossa, when I came upon a sac whose anterior wall seemed to be made up of purely inflammatory tissue. Fluctuation in this sac was obtained, the needle of a large hypodermic syringe introduced, and thick pus withdrawn. I then enlarged the opening and evacuated nearly a pint of thick pus having a distinctly faecal odour. On exploring this cavity it was found to extend downwards below Poupart's ligament, and above as far up as the diaphragm. The cavity was thoroughly irrigated with boiled water and two rubber drainage tubes inserted, one reaching to the upper and one to the lower limit of the sac. The abdominal wound was then closed with silkworm gut sutures.

On dressing the wound on the third day gas was noticed escaping, and on the fourth day fæcal matter escaped.

On the sixth day there occurred a marked elevation of temperature, and on examination of lungs, percussion dulness was found over right apex, extending down as low as lower border of third rib. There was increase of vocal fremitus, and loud coarse mucus râles were heard over this area.

Death occurred on the tenth day after operation.

This case has many features of unusual interest; in some respects resembling a case reported by Dr. William Gardner. I am not at all sure that the case can correctly be entitled one of appendicitis. I regret that no autopsy was obtained to clear up the case. The history is rather one of chronic colitis, probably tubercular. There is no history of a recurring subacute appendicitis, much less of an acute attack. *He had never been confined to his bed before admission to hospital.* At the operation the appendix was not, apparently, more involved than the posterior wall of colon. The pus was entirely retro-peritoneal. I think it quite likely that tubercular ulceration took place in the cæcum or appendix, or both; that there was excited in their peritoneal coverings an inflammatory action that resulted in the union of the vesical peritoneum of the cæcum or appendix with the parietal peritoneum beneath. The ulcerative action continuing, perforation occurred, and escape of pus or possibly a small amount of fæcal matter into the subperitoneal tissue, where suppuration continued until the large cavity described above was formed.

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

By FRANCIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.

Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Excision of the Tongue.—At the meeting of the London Medical Society, held April 2nd, 1891, Mr. W. Whitehead of Manchester read a most instructive and interesting "report of 104 Cases of Entire Excision of the Tongue for Cancer" (*Lancet*, May 9th, 1891). During the last twenty years he had operated 139 times on the tongue for cancer, with 119 recoveries and 20 deaths, a mortality of 14.3 per cent. Deducting 10 removals with the galvano-écraseur and 25 partial excisions, there are left 104 cases of complete excision of the tongue with scissors, with a mortality of 20, or 19.21 per cent. Of course these cases include those where the disease was extensive, involving the floor of mouth and tonsil, and necessitating an extensive and severe operation, the mortality of which was about 50 per cent. In 66 cases where the tongue alone was removed, the mortality was only 4.5 per cent. Mr. Whitehead describes his method of operating as follows:

(1) The patient should be completely under the influence of the anæsthetic during the first stage of the operation, but afterwards only partial insensibility should be maintained.

(2) The head should be supported in such a position that the blood should gravitate out of the mouth rather than back to the pharynx.

(4) A firm ligature should be passed through the tip of the tongue for purposes of traction.

(5) The first step in the operation consists in dividing the reflection of mucous membrane between the tongue and jaw and the anterior pillars of the fauces.

(6) Rapid separation of the anterior portion of the tongue from the floor of the mouth, and (7) securing, if possible, the lingual arteries with forceps prior to division.

(8) Passing a ligature through the glosso-epiglottidean fold before finally separating the tongue.

(9) The application of a mercurial solution to the floor of the mouth, followed by painting the surface with an iodoform styptic varnish.

With regard to hemorrhage, Mr. Whitehead states that after the mucous membrane and pillars of the fauces are cut, the tongue can be drawn out of the mouth, making the operation an external one, and if the arteries are cut before being seized they bleed externally. He, from extended practice, can now always seize the arteries before division, and he is in the habit of disregarding all bleeding and cutting boldly until the neighbourhood of the arteries is reached. He always twists the vessels, and has never had a case of secondary hemorrhage. In his own practice the operation is practically bloodless. As a styptic and antiseptic paint for the floor of the mouth, he uses Friar's balsam, but substitutes for the spirit ordinarily used in its preparation a saturated ethereal solution of iodoform, adding to the ether one volume in ten of turpentine. He at one time fed patient by the rectum for the first four days, but now he has abandoned this practice and feeds patient by the mouth as freely and early as possible. Instead of keeping his patients in bed, he encourages them to sit up and even go out in the sunshine the day after the operation if the weather be fine.

In sixty-one cases which could be traced after operation, 15 survived the operation one year, 4 two years, 2 three years, and 1 six years. In one case reported in 1880, the patient lived fourteen years after operation. In only six cases was there a family history of cancer, and in seven of syphilis. In 16 cases the disease was traced to an injury. Of 79 cases, 41 smoked clay pipes. In the 15 cases occurring in women, two occurred in smokers. Mr. Whitehead pleads strongly for early operation.

I have recently performed this operation in a man aged 63. It is easy, simple and rapid, and with a good light and sharp assistant the arteries need not give the operator any anxiety. The patient swallowed liquid food readily on the second day, and was up and about on the third. After food was taken, the wound was washed out and the styptic varnish applied twice daily. In every way I found the operation to be a most satis-

factory one, when the floor of mouth, tonsils or glands are not involved.

Mr. Berger of Paris, at the meeting of the Société de Chirurgie on February 4th, 1891 (*La Semaine Médicale*, Feb. 11th, 1891), recommends in partial excision of the tongue the union of the cut edges by deep sutures. He has obtained in these cases complete union by primary intention in two weeks. The tongue is removed by means of the thermo-cautery, and the most careful antiseptic precautions are taken, the mouth being washed out every four hours with a boracic acid solution.

After complete excision of the tongue, some surgeons recommend the bringing of mucous membrane from before backwards over the stump, as is done in cases where the jaw is removed. Whitehead has found this procedure interfere with the movements of the epiglottis. In cases where the disease of the floor of the mouth is extensive, it is quite impracticable.

Treatment of Gangrenous Gut in Strangulated Hernia.—Although this subject has been referred to very recently, still the opinion of surgeons is so various that any further light on the subject will prove most acceptable.

Mr. C. B. Lockwood, at a meeting of the Royal Medical and Chirurgical Society, held March 24th, 1891, read a paper on the *Treatment of Strangulated Hernia when the Intestine is Gangrenous or Ulcerated*. He showed that the old treatment could not be depended upon to give relief. In the cases operated on by incision of the gangrenous bowel, no less than 88.57 per cent. died. Even if the patient escapes the dangers of septic infection, the bowel may be opened so high up that he afterwards dies of inanition. The author's conclusion was that primary resection and suture was the procedure that ought to be adopted in all these cases.

In the discussion which followed, Mr. Mayo Robson advocated primary resection, and related two successful cases. Mr. Thos. Bryant was surprised at the great mortality of the old operation. In his experience the majority of cases were moribund before they were operated upon; patients in his experience did not die from fæcal extravasation or peritonitis, but from collapse. He held that the treatment by resection could be applied to a very

small number of cases, and that for the majority the old treatment would be adhered to. Mr. Bennett looked upon the treatment by resection as the ideal one, but such a treatment was not always easily adapted to ordinary practice. The condition of the patient also often was such that the question of resection could not be considered. In many cases where the bowel was laid open there was paralysis, and resection even would not overcome this. He had succeeded in affording relief by introducing a tube and drawing off the fæces. He advocated returning the gut within the neck of the sac and introducing a drainage-tube. Mr. Treves stated that the mortality after the operation for strangulated hernia in the London Hospital was 50 per cent. In 73 cases of strangulated hernia in which he had operated when emergency surgeon, there were six cases of gangrene of the bowel; all died. In two he did nothing, in one he cut open the bowel, and in three he resected. The less that was done in these cases the better; the patients died of obstruction and not of gangrene. The sac should be opened, the constriction relieved, and the gut opened or left to open itself.

In the *Beitrag zur Klin. Chir.*, Bd. vii, Hft. 1, Dr. Krumm of Heidelberg discusses the indications and contraindications of primary resection with apposition of the divided portions of intestine by circular suture in cases of gangrenous hernia. The paper is based on 15 cases of gangrenous hernia treated in Prof. Czerny's clinic in seventeen years. In 9 an artificial anus was established, and in 4 the gangrenous intestine was cut away and the divided ends of the canal brought together by a circular row of sutures. By the first method 5 cases recovered completely, and 4 resulted fatally. Primary resection was successful in three cases, the fourth case dying asphyxiated on the operating table. Czerny advocates resection in suitable conditions, but the formation of an artificial anus is indicated when the gangrene involves the sac as well as the bowel, when the strangulation has been much prolonged and the patient is in a state of collapse, and there is a large accumulation of fæces in the intestinal canal. Primary resection is justifiable in recent cases of strangulation, where the mesentery is not too much constricted or involved,

and where there is no exhaustion and collapse, and no peritonitis. It is contraindicated where there is a phlegmon. Dr. Krumm suggests that this operation be confined to hospital practice.

Resection of Intestine by Senn's Method.—At a meeting of the Clinical Society of London, held May 8th, 1891, Mr. A. Lane reported two cases of resection of the gut for gangrene. The first case was that of a woman aged 53. It was femoral, and on the right side. The bowel was found in a damaged condition, so after cleansing the bowel, a median section was made, the bowel drawn out, and it was found that only a portion of the calibre of the bowel was involved (Littre's hernia), and that its condition was hopeless. About three inches of the bowel was removed and its mesentery ligatured, the cut ends were inverted and closed by Lembert's suture, and anastomosis performed by Senn's plates. Patient did well, and in twenty-four days went out well. The second case was a woman, aged 55, who had suffered from strangulated femoral hernia for five days before admission to hospital, was in a collapsed condition, and abdomen distended. The bowel was found gangrenous, and some four inches was removed. The operation was very rapidly performed owing to the condition of the patient. She lived five days, death resulting from the escape of contents into the peritoneum from a small opening in the proximal end of the bowel. Mr. Lane, in conclusion, strongly advocated, in desperate cases, merely performing Senn's anastomosis without resecting the bowel, but leaving it outside. In cases where the condition of the patient was fair and the bowel doubtful, the abdomen should be opened in the middle line, the bowel examined, and, if necessary, resected. He looked upon the old method of treatment as a disgrace to modern surgery.

In the discussion which followed, the majority of speakers advocated resection. Mr. Parkin stated that in 272 operations for strangulated hernia at Guy's Hospital there were 79 deaths. In 22 cases where the bowel was gangrenous, 21 died. Mr. Harrison Cripps protested against the older methods being called barbarous, and held that much could be done by opening the bowel and withdrawing the contents by means of a tube. If the

patient were moribund, resection of the intestines would prove of no avail.

Diaphragmatic Hernia.—Dr. Hollis (*Lancet*, May 16th, '91) reports a case of this hernia occurring on the right side in a boy aged 16, admitted into the Sussex County Hospital. Three hours before admission he was found lying in the street doubled up with pain; he had been perfectly healthy up to the time of seizure. On admission he was in a state of collapse. His bowels had been opened that morning previous to onset of pain, which was of a dull, aching character. Heart's apex two inches outside of nipple line; sub-tympanic percussion note over the right side of chest, suggesting pneumothorax; breath sounds were distant and cavernous; absolute loss of vocal fremitus as high as scapula; abdomen retracted and percussion note dull. He continued to get worse, and it was decided to aspirate, but nothing at first came through the needle, but after cleaning it a bluish fluid and air escaped. The fluid had a grumous smell like stomach washings, was strongly acid, and found to contain oil globules, starch granules, muscular fibres, etc. He was much relieved for a time, but the pain again returned, and he died that evening. At the necropsy, the right lung was found collapsed, and the right chest contained omentum, mesentery, large and small bowel; these protruded through a round opening with a smooth edge, which existed between the external arched ligament and the central tendon of the diaphragm. All the intestines, with the exception of the duodenum, sigmoid flexure, and rectum were in the right thorax. The stomach was much congested and ecchymosed, and had without doubt been in the thorax when it was aspirated. The opening in the diaphragm showed no evidence of recent rupture.

Herniæ which have Relapsed after Operation.—Dr. Wm. T. Bull, in a paper on the above subject (*N. Y. Medical Journal*, May 30th, 1891), says that frequent contact with patients who have been operated on for herniæ gives rise to the belief that the majority, while not cured, are certainly improved. This goes without saying in the cases of irreducible or strangulated herniæ. Even with relapsed hernia, patients find much satisfaction in the fact that the protrusions are not so large as before

operation, or they experience increased comfort and security in the wearing of the truss. When the patient says his condition is worse than before operation, it is found that a truss has not been worn at all or that the cicatrices of the wounds presented signs of their having healed by granulations with subsequent yielding of the cicatrices. In conclusion, he says that he believes that all procedures should be so devised as to insure prompt healing of the wound, and that the support of a truss should be insisted on from the time the patient leaves his bed.

Operations on Enlarged Prostate.—Dr. Belfield of Chicago (*Amer. Jour. of Med. Sc.*, Nov. 1890), in an elaborate article on the above subject, says—(1) The inability to evacuate the urine does not depend on degeneration of bladder muscles, but is due to mechanical obstruction offered by prostatic growths.

(2) That this enlargement of the prostate is not limited to advanced life.

(3) That prostatic obstruction is usually of such a form as to permit of excision.

When operation is determined upon, thorough enucleation of all circumscribed masses within as well as above the general prostatic service should be done. Such tumors can be enucleated after incision of the mucous membrane with surprising facility. In very feeble patients, perineal prostatectomy should alone be practised; in others, in proportion, cystotomy should be done. In conclusion, the author strongly advocates an earlier resort to operation, and says that it should not, as hitherto, be deferred until the last stage. The reader is also referred to the following articles:—

“La Prostatotomie et la Prostatectomie,” by Prof. A. Heydenrich. (*La Semaine Médicale*, No. 49, Nov. 12th, 1890.)

“Prostotomy and Prostotectomy, and the Indications for their Performance,” by Dr. Ed. Vignard of Paris. (Quoted from *Central. f. Chir.*, No. 32, 1890, in the *Annals of Surgery*, Feb. 1891.)

“Lateral Prostatectomy,” by Prof. Dittel. (Quoted in the *Annals of Surgery*, Feb. 1891, from the *Wien. Med. Woch.*, Nos 18-19, 1890.)

Litholapaxy in Children.—At a meeting of the Medical Society of London, March 16, 1891, Mr. Edmund Owen reported a fatal case of rupture of a boy's bladder during the performance of litholapaxy. The patient was an unhealthy child under five years of age. In washing out the bladder with a wash bottle of the size used in adults, a gurgle was heard and all resistance to the flow through the evacuator ceased. An immediate median abdominal section was made, the rent in the bladder (one-eighth of an inch) closed, and the abdominal wound sutured. A perineal drain was also introduced. The boy died of collapse in eight hours.

At the same meeting Surgeon-Major Keegan read a paper on *Litholapaxy in Children*, which he illustrated by various specimens and instruments. The collection of stones showed 117 specimens out of 125 litholapaxies performed in males under 15 years; the oldest patient was 14 years, the youngest 21 months—average 6.38 years. There were four fatal cases, and in each case there was organic disease of the kidneys; there was but one recurrence in the series. He preferred this operation to the lateral or median for two reasons: (1) The rapidity of cure, and (2) the freedom from the objections and dangers inherent in all surgical operations in which the knife was used. He did not advise the operation in young males with large, hard calculi unless the operator has had considerable experience. He held that no surgeon should attempt to perform litholapaxy on a child trusting to one lithotrite and one evacuating catheter, for a lithotrite that would pass easily into a boy's bladder at the beginning of an operation might not do so towards its termination, when the urethra had, perchance, become swollen and encysted. He said that four to five ounces of water should be the maximum quantity in the bladder at any given moment, injections never being practised while the patient was straining; that extreme gentleness and care should be taken in practising all manipulations in the bladder and urethra, and that it should be ascertained that not a grain of débris was left behind in the bladder.

Forty successful cases of Litholapaxy in Boys.—Surgeon-Major Gimlette reports forty cases of litholapaxy in boys from

the age of 3-16 years (*Brit. Medical Jour.*, 9th May, 1891). He says that in the vast majority of cases the operation was followed by immediate relief without anything more than a trifling rise of temperature. The boy, if allowed, would be up and playing about in two or three days. In a few cases fever ensued, always intermittent, never high, and yielding to quinine. He reports, in addition, six cases where litholapaxy was impracticable owing to the small size of the urethra, sacculated bladder, size and hardness of stone, etc. Two of these cases died.

Surgeon-Major Freyer, in a paper entitled *The Present Position and Scope of Litholapaxy*, gives the following statistics (*Brit. Med. Jour.*, May 9th, 1891). In 1886 he gave the results of 321 operations for stone in the bladder, 128 litholapaxies, and 193 lithotomies, with 14 deaths. He showed that the introduction of the operation of litholapaxy had the effect, in his practice, of reducing the mortality from 18 to $5\frac{1}{2}$ per cent. Since then he has given a further series of 400 cases of stone, 342 litholapaxies with four deaths, 54 perineal lithotomies with one death, and 4 supra-pubic operations with one death,—in all 400 operations with six deaths, a mortality of $1\frac{1}{2}$ per cent. He attributes this lessened mortality entirely to the introduction of Bigelow's operation. Of the 342 cases of litholapaxy 115 were in male children.

In the same number of the *British Medical Journal* are two papers, to which the reader is referred, viz., (1) *Remarks on Suprapubic and Lateral Lithotomy and on Litholapaxy*, by J. A. Cunningham, M.D. (2) *Observations on Lithotripsy with a series of forty consecutive cases*, by F. S. Edwards, F.R.C.S.

Re-implantation of Bone in Trephining.—Dr. R. F. Weir exhibited a case of trephining to the New York Academy of Medicine (*N.Y. Med. Jour.*, May 16th, 1891), where he successfully replaced three large bone discs which had been removed in a case of depressed fracture received many years before, and which had produced epilepsy. The case was operated on in 1887, and the replaced bones were still firm and only recently had slight pulsation at the spot appeared. The whole surface of bone was somewhat sunken, though smooth, no trace of joining being felt. He mentioned another case of re-implantation of the

discs where they remained quite solid for two years and then gradually disappeared, absorption having taken place, and a hernia of brain substance covered by skin took place. In neoplasm this absorption acts as a valuable safety-valve, and relieves intracranial pressure. In replacing the bone removed by the trephine, the pieces must touch the margins of the cranial opening, and the little pieces filling up the gaps must touch one another.

The Closing of Trephine Openings by Celluloid Plates.—

A case was presented to the Vienna Medical Society by Hinterstoisser (*Wiener Med. Presse*, No. 42, Bd. xxxi) showing the successful result of an effort to close a trephine opening by a celluloid plate. The patient, some months after recovering from a comminuted fracture of the left parietal bone, suffered from giddiness, weakness, loss of power in the right side, and chronic twitchings of the right facial region and the corresponding upper extremity. Three years later epilepsy developed. Examination showed a hyperæsthetic depressed cicatrix corresponding to the position of the upper portion of the ascending parietal convolution. There was also bilateral concentric narrowing of the field of vision, diplopia on looking to the left, and sensory and motor paresis of the left side. The cicatrix was excised, a periosteal flap raised, the depressed bone removed, and the healthy non-adherent dura incised, showing normal brain cortex. The dura was sutured; on the fourth day it was found united. A polished celluloid plate was now fitted over the trephine opening, the periosteum was stitched over this, and finally the skin wound was sutured. Healing was prompt and all brain symptoms ceased. Two other successful cases were also reported where celluloid plates were used in a similar manner.—(Quoted in *Amer. Jour. Med. Sc.*, June, 1891.)

Successful Trephining for Traumatic Rupture of the Middle Meningeal Artery.—Dr. Rochet (*Gaz. Hebdomadaire de Med. et de Chir.*, Dec. 27th, 1890) reports a case where a man, aged 28, was thrown violently on the ground, striking on the right parietal protuberance; he was carried in an unconscious condition to a house, where he remained twenty-four hours, and was then removed to hospital. When seen he was like a person in a deep

sleep, though when spoken to he would open his eyes, but made no response. There was no paralysis, no discharge from ears, or pressure over the parietal region; he made grimaces; ecchymosis of both eyelids, of the zygomatic region, and temporal fossa. On the third day facial paralysis began, with conjugate deviation of the eyes; the left arm was completely, and the left thigh and leg partially, paralyzed; right pupil dilated, and right cornea almost insensible. On the fourth day, when asked where he suffered, he pointed to right side of head; in the night he was crying, and tried to rise. He remained thus for five days, and then surgical interference was decided upon. A crucial incision was made over the right fissure of Rolando, and on throwing back the flap a long line of fracture was seen crossing the parietal bone. A trephine was applied where the fracture crossed the line of the Rolandic fissure, and on removing the bone there was a jet of black blood. The orifice was enlarged and a large clot found, which was removed, leaving a cavity the size of an orange occupying all the temporo-parieto-occipital region. The cavity was washed with boric acid solution and gently packed with iodoform gauze. No sutures were taken in the scalp. During the evening the patient recovered consciousness and the hemiplegia was greatly improved. Next day the facial paralysis disappeared, and ultimately the patient entirely recovered.—(*N. Y. Med. Journal*, April 25th, 1891).

Results of Arthrectomies of the Knee.—Dr. Angerer of Munich has performed 82 arthrectomies during the last four years in the polyclinic and children's clinic; 63 of these were children under 14 years of age. Angerer concludes from his observation of these cases that there is little danger in overlooking foci of disease which may cause subsequent trouble. Of 70 cases operated on, primary union was obtained in 48; 10 of these cases were marked by a return of the disease *in loco*, 8 of these were cured by treatment of the fistula. The author prefers arthrectomy to typical resection, especially in the synovial form of tuberculosis. A bony focus of disease was found in 52 of the 82 arthrectomies; 30 were cases of synovial tuberculosis. In 63 arthrectomies in children, a disease focus was found in 36. The author recommends early movements and massage in order to avoid contrac-

tures, and also advocates early operation.—(Quoted in *Annals of Surgery*, vol. xii, p. 469.)

Arthrectomy of Ankle-joint with temporary removal of Astragalus.—Dr. H. Ström of Norway extirpated the left ankle-joint in a boy aged 15, who was suffering from tuberculosis of this joint. He opened the joint by means of Kocher's method. As he could not gain sufficient access to the tuberculous masses which he intended to extirpate, he removed the astragalus, and after having carefully extirpated the tuberculous tissue, replaced it again. All the cartilaginous surfaces of the tibia, fibula, calcaneum, scaphoid and astragalus were removed. The cutaneous wound was brought together and drainage-tubes inserted. The patient was exhibited to the Christiana Medical Society, Dec. 20th, 1889, at which time he was practically cured. The foot was swollen, but he could stand on it well.—(Quoted in *Annals of Surgery*, vol. xxii, p. 470.)

Surgery of the Liver.—Mr. Knowsley Thornton, in a most interesting paper on *Observations on Additional Cases illustrating Hepatic Surgery* (*Lancet*, April 4th and 11th, 1891), details notes of 16 cases in which he has operated. He expected to find gallstones in ten, and found them in seven. In one case, although the gallstone was there, he failed to find it; in another, the case proved to be one of hydatids. In three cases which he explored, two proved to be malignant disease, as he expected, and in the third there were merely adhesions, the division of which cured the patient. The diagnosis of gallstone is still uncertain, and Mr. Thornton advocates more frequent exploration. The chief diagnostic points regarding the diagnosis of gallstones, he says, are: (1) The sudden onset of the pain and the equally sudden departure. (2) The way in which the pain travels round the body and through into the back at the angle of the scapula, and the sense of constriction round the region of the diaphragm. (3) The presence of a mobile pear-shaped tumor in the situation of the gall-bladder, or to one or other side of that situation, which rises and falls with respiration, and varies in size and tension. If the above symptoms be suddenly complicated with jaundice, especially if a swelling previously present disappears, it is pretty certain that the stone has passed through the cystic duct

and become impacted in the common duct. Absence of ascitic fluid cannot be relied on as a differential diagnosis between malignant disease and gallstones, for gallstone may be present with malignant disease. He advocates needling the stones when arrested in the common duct, and leaving the fragments to find their way into the bowel. To obtain success by this method, the stones must not be too large and they must be mobile. When large stones are impacted in the common duct, the duct should be opened, the stone removed, and the opening sutured. In cases where the gall-bladder cannot be sutured to the abdominal wound, or the incision in the common duct is imperfectly closed, Mr. Thornton has proved by cases that if efficient drainage is provided the cases will do well. In such conditions he advises, in addition to the drainage tube put into the gall-bladder, that a counter opening be made above the pubes and a glass-tube placed in the pouch of Douglas.

Rupture of the Gall-bladder.—Mr. W. A. Lane (*Lancet*, May 16th, 1891) relates a case where there was rupture of the gall-bladder with retention of a considerable quantity of bile in the peritoneal cavity for five weeks, in which operation proved successful. The patient was a boy, aged 18 years, who was brought to the hospital in a moribund condition, with the history of a blow on the abdomen five weeks before. The abdomen was very distended, and contained a quantity of fluid. Immediate laparotomy was performed without much hope of success. About three gallons of fluid, deeply stained with bile, were removed. A drain was introduced, and after twenty-four hours, as no more fluid escaped, it was removed. He rapidly improved, but about a week or two later a dulness appeared in the position of the liver, which gradually extended for a considerable distance into the right chest, and downwards into the umbilicus. Aspiration removed six pints of bile, so an incision was made later and the finger introduced into what was apparently an adherent gall-bladder. A drain was introduced, which, on ceasing to evacuate bile, was removed a week later. The boy rapidly got strong, and gained flesh.

Mr. Lane says that the fact that a considerable quantity of bile may remain free in the abdominal cavity for five weeks and

produce no symptoms other than those of a serous effusion will give the surgeon much more courage in interfering with abnormal conditions of the gall-bladder and bile ducts, for previously this condition was dreaded from the fear of imaginary risks involved. According to Dr. Pavy, no harm results from the escape of even a considerable quantity of bile into the peritoneal cavity in dogs and rabbits.

The Treatment of Malignant Growths of the Thigh by Hip-joint Amputations.—In an editorial in the *University Medical Magazine*, January 1891, this subject, which has interested surgeons for some time past, is considered. Borck (*Deutsch. Med. Zeit.*, Nov. 24, 1890) states that in nine cases a hip-joint amputation was performed for the relief of a malignant growth of the thigh with the following result: One died as a result of the operation, seven subsequently died from a return of the disease, and but one remained cured. In 111 cases collected by Borck from medical literature, 23 died from the operation. In only 36 of the remaining cases could the history be followed; of these, 26 died from metastasis, 6 from consumption or other disorder frequently associated with malignant growths, 2 suffer from tumors, 1 is still well two and a half years after operation, and 1 is well thirteen years after. Again, Borck states that as a result of the study of 87 cases of hip-joint amputation, in which full histories could be obtained, there is not a single instance of assured permanent cure. These statistics are interesting in view of the advice of some surgeons that in all cases of sarcomatous disease of the thigh amputation through the hip-joint should be performed. This procedure does not prevent recurrence, and in view of the fact that the operation is in itself more dangerous than a simple amputation of the thigh, it would be as well to discountenance a practice the benefits to be derived from which are founded on theoretical grounds alone.

I have at present a patient who had sarcoma of the lower third of the thigh, and for which I amputated through the junction of the upper and middle third two years ago; she still remains well and having no symptoms of recurrence. It would be interesting if Borck would tabulate statistics of cases of ma-

lignant disease of the thigh in which amputation was performed below the hip-joint.

Extirpation of Syphilitic Stricture of the Rectum.—M. Quenu has put on record (*Bulletin de la Société de Chirurgie de Paris*, No. 3, 1891) a case of very tight syphilitic stricture of the rectum in a woman aged 36 years, in which, by the posterior median incision, he excised the lower extremity of the gut, together with the surrounding indurated tissues. The patient made a good recovery, and when last seen (seven months from date of operation) was quite well and presented no signs of relapse. Simple dilatation in cases of old syphilitic disease of the rectum Quenu believes to be often ineffectual, usually very painful in practice, and not always free from risk. Posterior linear rectotomy sometimes gives better results, but is merely a palliative operation, and is sometimes followed by long-continued and exhausting suppuration. The disease, when of long standing, should be treated as a new growth, and if the stricture involve the lower portion of the rectum, excision should be performed by the perineum; and if it be situated above this region, the sacral method of Kraske should be employed.—(Quoted in *Brit. Med. Journal Supplement*, May 2nd, 1891.)

Results of Excision of Chancre.—Dr. Jullien (*Annales des Maladies des Organes Genito-Urinaires*, April 1891) records the results of the operation in eighteen cases, and contends that his results are such as to lead him to continue the plan. In itself the operation is simple enough, and the wound usually heals by first intention. Only on four occasions in the eighteen cases has the induration returned, and in no single instance has it been attended with ulceration. In two cases the chancres reappeared. In a considerable number of cases no constitutional symptoms followed, and Dr. Jullien considers that when induration is quite recent, and when there is no affection of the glands or lymphatics, the operation should be undertaken, and will in a fair number of cases yield a satisfactory result.—(Quoted in *Brit. Med. Jour. Supplement*, May 2, 1891.)

Intubation versus Tracheotomy.—Dr. W. H. Whyte (*North American Practitioner*, March 1891) does not believe that the

hope has been fulfilled that intubation would, on account of its simplicity, take the place of the knife and add materially to the resources of the profession. The operation requires a degree of manual dexterity which the average physician, with his few opportunities, is not able to acquire. The objection is that the patient is subjected to a certain amount of exhaustion which can be ill borne in one suffering from diphtheria. He thinks one cause of death after intubation has not been given sufficient prominence—viz., pneumonia, resulting from the entrance of liquids at the air passages. The great advantage possessed by tracheotomy over intubation is that the surgeon or nurse can easily remove and replace the tube without pain or discomfort to the patient. He thinks country practitioners do not perform tracheotomy early or often enough; it is an operation which any country practitioner with a cool head and some surgical experience can perform.

Two Cases of Dislocation of the Ulnar Nerve.—These two cases were treated at St. Thomas's Hospital, London. The first, under the care of Mr. Croft, was a woman aged 28, and the accident was caused by a fall on the elbow. There was pain in the inside of the elbow extending to the fingers whenever she flexed the arm, caused by the ulnar nerve slipping over the internal condyle when the elbow was near a right angle. There was no local tenderness, loss of power or sensation, or wasting of the muscles. The nerve was exposed by a semilunar incision and the nerve sheath stitched to the inner margin of the triceps tendon, and he finally attached the edge of the muscle to the periosteum covering the internal condyle, thus embedding the nerve. The arm was then fixed in the extended position. The day after there was numbness, and, later, absence of sensation in the fifth finger. The wound healed by first intention and sensation gradually returned. On discharge from hospital there was no pain on flexion, and the function of the nerve was completely restored. The second case was a man aged 30, a book-keeper, with much writing to do, and for the last two years he found his arm getting weaker, preventing him from holding a pen for any length of time. He noticed that something slipped forwards on the inner side of the elbow. There was no history of injury. The patient

was operated on by Sir Wm. MacCormac. The nerve was exposed and fixed by two kangaroo tendon loops passed through the inner margin of the triceps tendon and somewhat loosely round the nerve. The arm was extended. There was no loss of sensation, and on discharge from hospital the nerve was quite fixed in its normal position, and the patient could write fairly well.—(*Lancet Hospital Mirror*, May 9th, 1891.)

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

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Treatment of Fibroid Tumors of the Uterus after the Method of Dr. Apostoli, by Dr. JOHN HOMANS, of Boston.—Dr. Homans gives a resumé of thirty-five cases treated by electrolysis. In the majority of these cases Dr. Homans has received a reply from a circular sent to them in regard to their state of health at the time of receiving the circular. The tenor of the majority of the replies was to the effect that the tumor had increased in size and the symptoms had become steadily aggravated in severity.

Dr. Homans concludes in the following way:—"In only two of the cases has the size of the tumor been diminished, and these two are cases when the menopause has occurred soon after the treatment *à la* Apostoli. *The general health* has been improved in fifteen cases; has been made worse in two, and death has resulted from the treatment in one. *Profuse hemorrhage* has been diminished to a normal or bearable degree in nine; has been increased in six and unchanged in nine cases. *Locomotion* has been made easier in sixteen cases and more tiresome in five. *Pain* was lessened in six cases, increased in two and unaffected in five; in sixteen it was not present. *Menopause* has occurred in four cases since the treatment begun. From this review it will be seen that we may expect, in the majority of cases, that the general health will be improved; that hemorrhage will be diminished; that locomotion will be made easier, and pain will be lessened; but we must almost never expect diminution in the size of the tumor, and seldom its arrest of growth. Out of thirty-six

cases, ten increased in size, and sixteen remained the same, but the latter were growing very slowly if at all."

I have learned enough about the treatment *à la* Apostoli to know that its results are not certain enough to induce me to pursue it as a routine treatment, and that it is occasionally fatal—through the fault of the surgeon, if you please, I am willing to admit, but, still once in a while fatal. If the practice of a method to be efficient and harmless requires the presence of the inventor, as well as his apparatus, then its beneficial effects can only be experienced in the presence of the inventor, and patients must go to him. Such a method can hardly be of general use.

Dr. Bigelow's lithocapaxy, for instance, can be practiced by any intelligent, practical and competent surgeon with almost as good results as if practiced by Dr. Bigelow himself; but electrolysis for fibroids *à la* Apostoli has not been as encouraging. efficient and harmless in my hands as Dr. Apostoli's books would lead me to suppose it ought to be. I have hardly used my battery during the past year.

Diagnosis of Pelvic Inflammation in the Female is the title of an address delivered before the British Medical Association by Dr. CHARLES J. CULLINGWORTH, of London. He said:—

"By pelvic inflammations I mean pelvic peritonitis and pelvic cellulitis, and not inflammation of the various viscera contained in the pelvis. These latter will only be dealt with so far as they are concerned in the pathological processes that lead to the affections I have just named.

"Is it possible clinically to distinguish between inflammation of the pelvic peritoneum and inflammation of the pelvic connective tissue? I believe that in most cases it is. The diagnosis is undoubtedly beset with difficulties, and, in the present state of our knowledge, there are still some cases where it is impossible. Year by year, however, their number is diminishing. Our knowledge of the anatomy of the female pelvis is becoming, chiefly from the study of frozen sections, more precise, while, owing to the advance in abdominal surgery, our opportunities of comparing the physical signs with the actual conditions are much more frequent than they ever were before. Exploration of the pelvis by abdominal section, now so frequently practiced, is teaching us on the living subject, and, therefore, under far more favorable conditions, the

lessons that until within recent years we could only learn from an occasional post mortem examination, performed, not only when the disease had advanced too far to teach us anything of its earlier stages, but also when the parts had ceased, from their loss of vital tonicity, to hold the same relative position to each other, and to convey the same impression to the touch that they did during life. The knowledge thus gained has revolutionized our ideas about pelvic inflammations. Until quite recently the teaching on this subject was vague and unsatisfactory. Whenever a hard mass was detected above the vaginal roof on one or both sides of the cervix uteri, the case was pronounced to be one of pelvic cellulitis, with exudation at the base of the broad ligaments. It is quite true that many years ago that excellent French observer, Bernutz, combated this view, and produced evidence to show that those hard, irregular masses above the lateral fornices were generally due, not to cellulitis, but to peritonitis. But his words fell on deaf ears, for old beliefs die hard, and men were not prepared to throw over as an exploded error what had appeared to them almost the one pathognomonic sign of an otherwise obscure disease.

"In the year 1886 Dr. W. M. Polk, of New York, published a remarkable paper in the first volume of the transactions of the Association of American Physicians, entitled 'A Study of Perinterine Inflammation in its Relation to Salpingitis, Based upon Sixteen Cases of Extirpation of the Tubes and Ovaries Occurring in Bellevue Hospital.' After giving a brief sketch of the history of medical opinion on the subject of pelvic inflammations, and examining the questions from the standpoint of analogy, he proceeds to enquire what evidence is furnished by the facts of the necropsy and operating rooms, which are, after all, as he says, 'the pivots of our faith in medical science.' With reference to the post-mortem evidence, he states that, at Bellevue Hospital, it is rare, except in the case of patients who have died from septicæmia, to find any proofs of pelvic cellulitis, unless it be clearly secondary to a previous inflammation of the pelvic peritoneum. 'On the other hand, nothing is more common than to find evidences of peritonitis about the ends of the tubes, and it is noticeable that in such cases the evidences of such inflammation diminish as you leave the extremities of the tubes.' And he sums up this part of the subject by saying that the post-mortem evidences go to

show that periuterine inflammation 'is a product of salpingitis and not secondary to cellulitis, and that, if cellulitis is present, it is either secondary to peritonitis, or else is a lesion of septicæmia, in common with those which belong to that order when originating in other parts of the body.' He then proceeds to give the records of sixteen patients who presented the signs commonly attributed to pelvic cellulitis, 'but in whom abdominal section showed salpingitis, periovaritis and peritonitis. In two of the cases there was slight œdematous swelling of the cellular tissue in the broad ligament, just beneath the spot in which an inflamed tube had rested; in the remainder the most careful examination failed to detect the slightest induration or swelling in any part of the cellular tissue that lay about the uterus or between the peritoneal layers of the ligaments.' Bi-manual vaginal exploration of the uterus and its surroundings was employed in each case both before and after the operation. 'Before the operation indurated sensitive masses were present about the uterus in each patient, and the mobility of the organ was impaired to a greater or less degree. After the operation the masses could not be found in a single case, and the mobility of the uterus was restored to about its normal range in nearly every instance. During the operation two fingers were placed astride the broad ligaments, every portion being thus readily explored. The entire pelvic floor was likewise examined by touch, and whenever the method seemed incomplete, the opposing fingers of an assistant were placed in the vagina. Between the two it was impossible for any induration or thickening to escape detection.' I have quoted freely from this paper because its conclusions rest on a solid foundation of facts. If time permits, I propose to present you with corroborative evidence from my own ward at St. Thomas's. In the meantime, I may say that my experience in abdominal surgery enables me to confirm to the fullest extent the propositions that Dr. Polk lays down.

"One word as to the sequence of pathological events in these cases of salpingitis and pelvic peritonitis. Where does the inflammation commence and what is its etiology? In the great majority of cases the inflammation begins in the mucous membrane of the uterus, either from septic absorption, or the

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of tubercle, or simple
injury of the fallopian
lining of the fallopian
the mucous membrane of the
secondary organs spread along their
no ready means of exit from
of the fallopian tubes, the dis-
mucus or pus, accumulate, and by so
inflammatory process. The inflammation
extends further outward beyond the fimbri-
to the adjacent peritoneum, and a
thus established, with its focus at the
the result of this sometimes is promptly
the tube, which then becomes distended by
it forms a more or less distinct tumor. In
peritonitis appears to commence by the sudden
the morbid secretions from the fimbriated ex-
the pelvic cavity, setting up sudden and violent
by all the signs and symptoms of an attack of
inflammation. Up to this point the process has
painless. Endometritis and endosalpingitis are
by pain, but the moment the peritoneum is
begins; so that what may seem to be the start-
illness, often is, in reality, merely an indication
inflammation process has passed from a mucous to a
membrane. The inflammation of the uterine mucous
may by this time, especially if it is simply catarrhal,
be decided. The canal of the cervix usually allows free
passage of the inflammatory secretions, so that an inflammation
of the lining of the uterus is ordinarily a much less
selection than a similar inflammation in the fallopian
tubes, where the readiest outlet is into the peritoneal cavity.
With regard to pelvic cellulitis, there is strong reason to
believe that this disease, when it is the primary affection, is
always septic, and that it is carried by the lymphatics through
the uterine or cervical tissues themselves to the connective
tissue immediately adjacent. The old idea, that some patients
will set up a cellulitis, puts the blame of a uterine sound
Neither a clean sound nor a clean wound ever yet produced a
cellulitis.

"It will facilitate our study of the distinguishing characters of these two inflammations if we consider for a moment the anatomical distribution of the two tissues involved. The peritoneum in the female pelvis is reflected in front from the anterior abdominal wall on to the fundus of the bladder a little above the top of the symphysis pubis. It thence passes down the posterior surface of the bladder as far as the level of the os uteri internum, when it is reflected upward and forward on to the anterior surface of the uterus. This reflection forms the vesico-uterine pouch. After investing the fundus uteri the peritoneum passes downward and backward over the posterior surface of the body of the uterus, the posterior surface of the supra-vaginal portion of the neck of the uterus, and behind the upper fourth of the posterior vaginal wall. Here it is reflected on to the front of the rectum and the posterior pelvic wall, forming a pouch or sac, which is the most dependent part of the peritoneal cavity. This pouch is bounded laterally by two folds of peritoneum, called the utero-sacral ligaments or Douglas's folds, which pass one on each side from the lateral borders of the supra-vaginal portion of the cervix uteri, upward and backward to the sacrum, the upper margin of the folds reaching the sacrum at about the level of the second sacral vertebra. Returning to the uterus, the peritoneum, after investing the body of that organ, is prolonged outward from its lateral borders in the form of a fold to the lateral wall of the pelvis on each side, forming with the uterus a sort of curtain stretching across the whole breadth of the pelvis. This fold is the broad ligament. It encloses along its upper border the fallopian tube, which runs outward to within a short distance of the side of the pelvis, and then leaves the broad ligament to terminate behind it, the last portion of its course describing a curve backward, downward and inward, so that the fimbriæ embrace the outer surface of the ovary, which latter organ lies behind the broad ligament on a lower plane than the main portion of the tube. Immediately below the ovary the layers of the broad ligament separate, becoming reflected on to the anterior and posterior pelvic walls respectively. It must be remembered that, although we speak of the surface as anterior and posterior, in the erect posture and in the normal condition the so-called posterior surface is in

reality directed upward and backward and the anterior downward and forward.

"The cavity of the pelvis being divided transversely by a curtain consisting of the uterus and the broad ligaments, the spaces behind the broad ligaments may be spoken of as the right and left posterior quarters of the pelvis, while those in front may be called the right and left anterior quarters of the pelvis. These latter are so shallow, and, except under very exceptional circumstances, so destitute of important contents, that they are of little or no practical importance. On the other hand, the two posterior quarters of the pelvis, with Douglas's pouch between them, possess the highest clinical interest. The latter because fluids in the peritoneal cavity tend to gravitate into it, and because, dipping down as it does behind the upper part of the vagina, it can easily be reached on vaginal examination; the former, because they contain the free ends of the fallopian tubes and the ovaries—structures, many of the morbid alterations of which can be ascertained by the bi-manual method with considerable accuracy.

"Turning now to the distribution of the pelvic connective tissue, we find that, except perhaps over the fundus uteri, a layer underlies the entire pelvic peritoneum, parietal and visceral. The so-called ligaments of the uterus contain a greater or less quantity between the peritoneal folds of which they are composed, while in certain special situations the connective tissue may be said to be abundant, for example, around the supra-vaginal portion of the cervix, along the base of the broad ligament, and behind the symphysis pubis.

"In the case of cellulitis originating in the cervix, the cellular tissue immediately surrounding the cervix is the first to be affected. The inflammation then spreads along the base of the broad ligament to the lateral wall of the pelvis. It may also affect the vesico-uterine cellular tissues in front, or the utero-sacral ligaments behind, in which latter cases the rectum will be surrounded with exudation on at least three of its sides, and in some instances will be completely encircled.

"We are now in a position to discuss the different diagnoses of pelvic inflammation.

"1. *Etiology*.—Pelvic peritonitis, in the great majority of cases, is secondary to disease of the lining membrane of the uterus, and, for the most part, travels to the peritoneum along

the fallopian tubes. This mode of origin is found in all the cases due to gonorrhœa, and in all the cases due to catarrh. It is also found in most of the cases resulting from tuberculosis, and from septic infection. In a certain number of cases of septic peritonitis the inflammation spreads directly to the peritoneum through the parenchyma of the uterus, by means of the lymphatics or the veins of the connective tissue, but where this is the case there will be cellulitis as well, for the inflammatory process affects all the tissue *en route*. Pelvic cellulitis, on the other hand, when a primary disease, is always septic and spreads directly outward from the body or cervix uteri through the parenchyma. There is, therefore, no involvement of the fallopian tube.

"These considerations have considerable bearing on the diagnosis. Thus, if a case of pelvic inflammation be known to have a gonorrhœal or a catarrhal origin, the tissue affected will be the peritoneum; if it occur after abortion, or labor, or an operation, or the passing of a tent or a sound—that is, if it be known to be septic—it may be either a peritonitis or a cellulitis, or both. If it be tubercular, it will be peritonic and not cellulitic.

"Of course, pelvic peritonitis may arise from other than the causes just mentioned—as from the presence of tumors, the ruptures of cysts, hæmorrhage into the peritoneal cavity, disease of the vermiform appendix, intestinal perforation, etc., but in none of these cases will there be associated disease of the fallopian tube, except as a coincidence, or any of this hard, irregular swelling in the lateral fornix, which is the main element of difficulty in discriminating between the pelvic peritonitis and the pelvic cellulitis.

"2. *As to the Amount of Pain.*—It is generally held, and with truth, that the presence of acute pain points to the pelvic inflammation being peritoneal. Cellulitis, when uncomplicated, is a disease not attended with pain; at any rate, not with severe pain. But we must remember that salpingitis is also a painless affection, and that the sudden onset of severe pain in an attack of pelvic inflammation is not to be taken as marking the commencement of the inflammation, but as indicating that it has reached the peritoneum.

"After the acute stage of peritonitis has passed, the pain is only felt after standing and walking. The tenderness, how-

ever, remains, and is apparent on vaginal examination and on coitus. Pain, however, is a most misleading symptom, for it is never so marked in cases of actual disease as it is in some neurotic patients who have no pelvic lesion of any kind.

"3. *The Physical Signs.*—In the early days of an attack of acute pelvic inflammation, physical examination tells us little or nothing. The vagina is hot and tender and its vessels may be felt pulsating, and that is all. But in chronic inflammation and in acute inflammation, when exudation has occurred, the physical signs are usually highly characteristic.

"In cellulitis arising from the cervix, we find either a uniform hardness and resistance in one or both lateral fornices, with depression of the vaginal roof and partial or complete obliteration of the cervix, or a collar of induration immediately in front, or immediately behind the supra-vaginal portion of the cervix. In pelvic peritonitis, on the other hand, there is no depression of the lateral or anterior fornices, for the exudation is within the peritoneal cavity, and, if it encroaches upon the vagina at all, it does so posteriorly and there only. It will then be felt as a distinct swelling in Douglas's pouch, obliterating the posterior fornix and pushing the uterus forward, if it is extensive, and forming an elastic tongue-shaped swelling behind the cervix and upper part of the posterior vaginal wall, if the amount of exudation is small.

"A similar condition exists in the conditions found on rectal examination. In cellulitis affecting the tissues behind the cervix, including the utero-sacral ligaments, the rectum in that region will be felt to be surrounded wholly or partially with a hard belt of exudation. Whereas, an exudation due to pelvic peritonitis will be confined to Douglas's pouch, and will be felt to be entirely in front of the bowel, though it may, and generally does, bulge into it. The swelling, moreover, will be less hard.

"When the body of the uterus is the starting point of a cellulitis and the broad ligament is the seat of the exudation, bi-manual examination will reveal a hard, smooth, flattened tumor by the side of the uterus, sometimes displacing it slightly to the opposite side. This tumor can be moved within certain narrow limits, backward and forward, between the two hands.

"Later on, when the exudation has reached the sub-perito-

neal connective tissue of the abdominal wall, it will give rise to a smooth, hard swelling beneath the abdominal muscles, occupying either the region immediately above Poupart's ligament, which forms its lower boundary, or the subra-pubic region. No such swelling or sense of superficial resistance is found in peritonitis.

"What, then, are the characteristic signs of pelvic peritonitis? There is a hard, tender, irregular swelling, felt on bimanual examination, lying posteriorly in the pelvis, above the vaginal roof, and not implicating or depressing it. This mass consists of thickened peritoneum surrounding the thickened fallopian tube and the ovary, the two latter being matted together by adhesions to each other, to the back of the broad ligament, and to other parts in the neighborhood. The uterus is seldom pushed aside by this mass and does not form, as it were, a part of it, as in cellulitis of the broad ligament. If the uterus is displaced at all, it is displaced forward, unless it has been retroverted or retroflexed to begin with, when it will have become adherent in its abnormal position. Very often the mass can be felt to extend behind the uterus, and to be adherent to its posterior surface. It is very seldom that any evidence of the presence of a pelvic mass of the kind just described can be obtained on examination of the abdomen. This is only possible when there is superadded an encysted peritoneal effusion, or when some of the pelvic viscera have happened to contract adhesions to the abdominal wall."

Shortening of the Round Ligaments for Uterine Displacements.

—Dr. HENRY P. NEWMAN read a paper upon the remote results of uterine displacements by the new direct method before the Gynæcological Society of Chicago in November, 1890, in which he says he presented to the same society this new method of operation at a meeting in September, 1888, and reported several consecutive cases. In the original technique of Alexander, the primary incision is made over the spine of the pubes, an inch and a half or more in length, upward and outward along the course of the inguinal canal. In operating after this plan, it is often impossible to find the ligament, and the new method is intended to overcome this difficulty, the distinct advantages of which are: (1) The singlesweep or two with which we cut down upon the inguinal canal, or the glistening aponeurosis of the transversalis muscle, directly

over the internal ring or canal of Nuck. (2) Through a single nick in the course of the separated fibres of this aponeurosis the blunt hook may often be passed into the canal, and the round ligament pulled out in less time than it takes to tell it; or, by lengthening the incision, it may be exposed along the canal in its entirety. (3) There can be no doubt here of the identity of the ligament, as a duplication of the peritoneum is seen surrounding it at its abdominal extremity. (4) The force used in pulling out the ligament is both brought to bear upon it at its strongest portion, and is in a direct line with the intra-abdominal course. This is in strong contrast to the old mode of pulling upon its frayed-out terminal fibres at an acute angle with its inner and stronger portion and over the sharp resisting surface of the ring. (5) Aided by the sense of sight, and seizing the ligament above the inguinal canal, we can feel assured that we are drawing upon the abdominal portion of the ligament, and not merely stretching its inguinal section. (6) As there are few or no adhesions at this portion, there should be absolutely no tearing of the tissues. Consequently, where aseptic methods are used, there should always be healing by first intention, and drainage and after-treatment be relatively simplified. (7) Where the ligament is strong and fully developed, as it is in its upper portion, it can be more securely anchored or made fast to the surrounding tissues. (8) Hernia is guarded against by deep sutures constricting the canal above the internal ring, insuring firm union where most needed. (9) The intercolumar fibres and tissues about the external ring are not interfered with or irritated in any way.

Inasmuch as many of the abdominal muscles have fibres converging about the pillars of the external inguinal ring, movements of the body often create disagreeable tension and cause pain in a wound situated here, and I have observed these distressing symptoms to continue for weeks afterward. I attribute their absence, in my later cases, to the fact of avoiding these sensitive areas and minimizing mutilation by the higher incision.

The Reciprocal Effects of Pregnancy and Parturition upon the Operation of Shortening the Round Ligaments.—Dr. WILLIAM ALEXANDER, of Liverpool (*Brit. Med. Jour.*, February 14, 1891), in a paper upon this subject, seems to feel that this

operation for suitable conditions is becoming more and more recognized as a valuable resource of surgery. He gives his experience with the effects of the operation upon subsequent pregnancy and parturition. "It has been erroneously supposed," he says, "that shortening the round ligaments will prevent the usual course of pregnancy, causing it to terminate in abortion, or, should pregnancy come to term, and parturition take place, the round ligaments will be so stretched that the old displacement will recur." These erroneous ideas he thinks natural, especially when we consider the extremely hazy conclusions given in our text-books as to the mechanism by which the uterus is maintained in its position, both in healthy women, who have no displacements, and also in patients whose round ligaments have been shortened. The round ligaments after the operation are usually passive. His experience is that the occurrence of pregnancy is favored, in cases of retroflexion and retroversion, by the operation, and that when pregnancy occurs, it proceeds and terminates naturally. Also that in backward displacements, the displacement does not tend to recur after parturition, while in cases where the round ligaments have been shortened for prolapse of the organ, the return of this displacement will largely depend upon the amount of destruction of the peritoneum. He disputes the assertion that the ligaments are stretched to any great extent by pregnancy, or left in an over-stretched condition by it, as without being stretched at all these ligaments will allow the uterus to rise to a considerable extent into the abdominal cavity, provided all the other attachments of the uterus are cut through. It would appear to be impossible for the organ to rise to the usual height in the abdomen without stretching these ligaments, but he has proved satisfactorily to himself, by post-mortem examinations, that they are not stretched, but that the uterus grows away from it; in other words that at the full term of pregnancy the fundus is very much above the attachment of the ligaments as compared with its position before pregnancy occurred. In substantiation of this opinion, he quotes the words of Dr. Jaggard in the *American System of Gynecology*: "On account of the relatively greater development of the posterior uterine wall, the origin of these ligaments is apparently moved forward to a point at the junction of the anterior fifth with the posterior

four-fifths of the antero-posterior diameter of the uterus in the latter stage of pregnancy." Dr. Jaggard, in the same article, also refers to the facility with which the uterine cavity will increase at the expense of whatever part of the uterine wall offers the least resistance. Dr. Alexander believes that the broad ligaments, round ligaments, adhesions, etc., are always partially left behind by the expanding uterus and can be left still further behind should necessity arise, through special shortness of the ligaments, strong adhesions, etc. Post-partum involution of the uterus tends to restore the position of parts to that which existed before pregnancy.

He therefore holds that in pregnancy the shortened round ligaments are not much strained because, "(1) The distance from the internal ring to the site of their attachment to the uterus is probably not greater in the pregnant than in the unimpregnated uterus; (2) that any strain during pregnancy upon the shortened ligaments does not so much produce stretching of these ligaments as development of the uterine cavity in a direction that does not increase the strain, and consequently the attachment of the ligaments apparently to a part of the body of the uterus much nearer the cervix than usually occurs; (3) that any stretching of the ligaments which may occur is probably rectified by post-partum shortening, and that both uterus and ligaments reassume, if involution has been natural and complete, as nearly as possible the condition that existed before pregnancy took place."

"These are the theoretical exceptions of the undoubted fact that pregnancy and parturition are not necessarily, or hardly ever interfered with by the operation." To substantiate these claims he quotes several appropriate cases.

The Peritoneum in Abdominal Section.—Dr. KETTERBORN, of Dorpat, has reported a series of experiments (*Centrallblatt f. Gynäkologie*), which will prove of value to all who are interested in abdominal surgery. His conclusions are different from those of Von Dembowsky and Sänger. The latter maintains that a single raw surface, formed by stripping off the peritoneum, is sufficient for the development of an adhesion, while two such surfaces in opposition must surely unite. Sänger further holds that no endothelium is formed anew to cover the peritoneal defect, so that an adhesion is unavoidable.

Von Dembowsky finds that ligatures, stumps and cauterized

surfaces usually cause peritoneal adhesions, while endothelium, coagula, irritating and antiseptic fluids, and slight bruises and incisions of the peritoneum do not cause adhesions when that serous membrane is healthy.

Dr. Kelterborn made eighteen abdominal sections upon cats. In all but two cases, the subjects were prepared for the operation just as in cases of ovariectomy, even to every detail, diet included, the operation being performed always under chloroform. Diet was restricted for several days after the abdominal sections, as it was found in some of the earlier cases that free feeding had a very prejudicial effect upon the abdominal wound. The abdominal sutures were introduced after the plan of Sir Spencer Wells, each suture being threaded to two needles and each needle being introduced from within outward through the peritoneum muscle and the whole thickness of the abdominal wall close to the edge of the wound. He paid particular attention to the effects of the cautery. Contrary to the experiences of other writers, he found that cauterized surfaces of healthy peritoneum, even when of some extent, tended to heal completely, the cauterized spot ultimately being covered over with a new layer of endothelium. This was the case whether the cautery was of the parietal peritoneum or the serous investments of the intestines, stomach and other abdominal organs. No adhesions formed and the surface was smooth and shiny; but when more than the serous coat was burned, especially when the vessels of the intestines were damaged by the cautery, bad results, such as suppuration, often occurred. Pieces of the serosa of the bowels, about one-third by one-sixth of an inch, and of parietal peritoneum, about one inch broad by one-sixth, was scraped off by a sharp curette or dissected away. The results were uniform, no adhesions being found three weeks after, when the subjects were killed.

The author notes that in healthy women plenty of ripe follicles burst on the surface of the ovary, leaving large scars, yet no adhesions are formed with the intestines or tube, and he thinks that in adhesive perimetritis the surface of the ovary is first infected from the tube, and then, and not otherwise, rupture of a follicle becomes a source of adhesions. He found, also, that ligatured pedicles and pieces of parietal peritoneum, transixed by a needle and ligatured, do not tend to adhere to

anything in healthy subjects. But it is an interesting fact that adhesions of the omentum to the median line often occurred in the simplest cases, even where there was no reaction after operation, and adhesions were limited to the site of suture, and were as frequent when disinfected silk was used, as when simple cleaned silk was employed. He attributes these adhesions, or rather this, to have been promoted greatly by the effect of air left behind within the peritoneal cavity after operation. The air pushes the omentum against the abdominal wall. The air left confined in the peritoneum escapes through the wound between the sutures. Ligatures left in the peritoneal cavity, he says, do not set up adhesions, but tend to become encapsulated. Adhesions occurring after abdominal section, where the peritoneum is previously healthy, can be traced to infection.

Uterine Curette and Anæsthetics.—Dr. GEIEL (*Nouvelles Archives d'Obstet. et de Gynæcol.*, December 25, 1890). does not consider that chloroform is necessary, or even advisable, for the operation of scraping the endometrium in cases of endometritis. He maintains that the proceeding is absolutely safe, providing that the manipulations are skillful, and adequate precautions against sepsis be taken. Cicatrices and atresia of the cervix need never occur, and hæmorrhage should cease directly the operation is performed. Dr. Geiel dilates the cervix with a tupelo tent. Within thirty-six hours the patient will be ready for the curette. The use of that instrument causes but little pain, and the little which it does cause is necessary for the detection of the most diseased spots on the endometrium. The patient is placed in the correct position and the tender spots are marked out by the touch of the sound. Then a twenty per cent. solution of hydrochlorate of cocaine is applied to the most tender parts, while the remainder of the uterine cavity is painted with a ten per cent. solution of the same compound. The anterior lip of the os is then seized by means of a volsella, and held by an assistant, so as to keep the uterus fixed and well drawn down during the operation. The endometrium is dried with wool and then carefully scraped, especially at the tender points. The characteristic grating sound (*cri utérin*) should be heard over every part subjected to the curette, as it indicates that the diseased material has been thoroughly scraped away. Lastly, the uterus

is washed out with a 0.05 per cent. sublimate solution. This washing is better than swabbing (*ecouvillonnage*). The after treatment consists in the administration of antiseptic vaginal injections, and in the introduction of iodoform-glycerine tampons. With the above precautions the curette may be safely used in cases of pure endometritis.

The Treatment of Interacting Bladder and Kidney Disease in Women.—This clinical lecture is based upon two cases of women with simultaneous pain in the bladder and kidneys. One patient passed urine full of pus, the kidneys were large and painful, and she suffered from agonizing attacks of vesical spasm. There was also feverishness, with dry tongue and dyspepsia. On mature deliberation, M. Guyon concluded that the origin of the trouble lay in the bladder, and that it was not advisable to operate on the kidney at once. The bladder was therefore laid open from the vagina, and kept open. The vesical pains at once ceased, the spasms never returned. More slowly the condition of the kidneys improved, the pain disappeared, and then they diminished in size until they ceased to palpate on manual exploration. M. Guyon bases treatment of this kind on a careful examination of the bladder. When, as in this case, the sound causes severe pain when it touches the mucous membrane, when the bladder is tender on pressure of the hand over the pubes, or of the forefinger against the anterior vaginal wall, the primary lesion will be in the bladder, and the renal swelling and pain will be secondary. Let the bladder rest then the kidney will empty itself and this will cause subsidence of the pathological changes in the renal pelvis and glandular tissue. All such cases do not demand so active a treatment as cystotomy. Simple medical treatment of cystitis, rest and weak antiseptic injections may be sufficient if taken in time. On the other hand, Bozeman's treatment of pyonephrosis by establishment of a vesico-vaginal fistula and subsequent catheterization of the ureters cures the renal complication on the same principle; but the practice is only to be undertaken by experts. The gynecologist and surgeon must not be misled by theories about reno-vesical reflexes, which imply that the primary disease lies in the kidney. M. Guyon's second patient was in an earlier stage of treatment when the lecture was delivered, but the vesical pain, fever and dry tongue had disappeared. In a

neighboring ward lay a man who had entered with retention and infiltration of urine from giving way of the urethra; at the same time a large pyonephrosis of the right kidney was detected. The infiltration and retention was treated in the usual manner. Within two months all the physical signs of pyonephrosis had completely disappeared. "To run to the assistance of the kidneys by methodical treatment of the lower part of the urinary tract should be a fundamental law of surgery."—*Prof. Guyon in Annales de Gynéc.*

Drs. SPAETH and HOFMOKL (*Lon. Med. Rec.*) calls attention to the danger of allowing coitus to take place too soon after a lacerated perineum has been repaired, and reports two unique cases. The patients were discharged from the hospital within a month after perineorrhaphy had been performed. In both instances intercourse occurred within two or three days after their return home, and transverse tears were caused in the posterior vaginal fornix, from which profuse hæmorrhage resulted which necessitated the application of sutures. It was remarkable that the injury occurred, not in the fresh cicatrix, but in the vaginal vault, which might be explained by the fact that the posterior wall of the vagina was shortened and thus put on the stretch in consequence of the operation. Another woman perfectly healthy, married at the age of thirty-one, and from the first had pain during coitus. A few days after marriage she had violent pain during the act, which was followed by profuse hæmorrhage. Four days later fecal matter escaped per vaginam while she was at stool. On examination the external genitalia were found to be normal. The columns of the posterior vaginal wall were torn away from their attachment, and there was a recto-vaginal fistula admitting the little finger. Hofmokl reports four cases from Vienna and Prague. In one case a powerful young man had intercourse with a widow, aged fifty-eight, causing a tear in the vaginal fornix with profuse hæmorrhage. In the second, violent coitus in a sitting posture produced a rupture of the posterior fornix involving the peritoneum; the patient lost much blood, but recovered. The third case was that of a girl, aged seventeen, whose lover had violent intercourse with her while she was in an exaggerated lithotomy position, causing a large tear in the right wall of the vagina. The fourth case was that of a young girl who had an undeveloped vagina with absence of

the uterus and adnexa. During a forcible and unsuccessful attempt at coitus she sustained a deep laceration of the left labium majus, which was torn away from the vaginal wall. The tear extended upward into the mons veneris and downward toward the rectum, while the finger could be introduced into the vaginal wound to the depth of two inches. Profuse parenchymatous bleeding was checked by pressure, and the patient was discharged at the end of four weeks cured, but still anæmic from the loss of blood. In Spaeth's case of recto-vaginal fistula (the sixth on record), the injury did not occur during the first coitus, but after several successful attempts had been made; it appeared to be due not to any disproportion between the introitus and the male organ, but to an abnormal thinness of the recto-vaginal septum associated with a broad, resistant perineum. He classifies the different injuries as follows: Deep tears of the hymen, with profuse hæmorrhage, tears of the clitoris, of the urethra (in cases of atresia hymenis), vesico-vaginal fistula, laceration of the vaginal fornix (usually the posterior or lateral), and of the septum in a duplex vagina, to which should be added injuries of the vagina from premature coitus after perineorrhaphy.

Dr. ROBERT BARNES contributed a paper before the British Gynæcological Society with the title, *The Correlations of the Sexual Functions and Mental Disorders in Women*, which constitutes an exceedingly valuable and clear exposition of many important facts and theories in the joint domain of psychical and gynæcological medicine. Every practitioner is more or less familiar with the frequent association of aggravated disturbance of the nervous system and mental sphere with uterine or ovarian disease. The important consideration in such cases is to determine the mutual reactions of these two disorders—which occurred first; which is cause, which effect? The influence of heredity is to be borne in mind, but it is a gross mistake to consider it an essential factor. With sexual disorder as a cause of mental or nervous disturbance, determined or probable, is an appeal for relief made to gynæcology as often as it should be or in the language of Dr. Barnes himself: "Has this enlightening and beneficent surgery (gynæcological) been fairly applied to the study of physiology and pathology of women or to the relief of women secluded in lunatic asylums?" Reference is made to numerous clinical

instances illustrating the relationship of the menstrual function and its perversions to nervous and mental phenomena of a morbid nature. The beginning of menstruation is the signal for mental disturbance with grave frequency, especially when heredity predisposes. The appearance of the first menstruation after labor has been often the signal of an attack of insanity, first called to the attention of the writer by Bailarger, at the Paris Salpêtrière, and since verified by him in several instances. The epoch of severest trial is, however, the climacteric or menopause.

Tilt emphasizes the danger of marriage at the climacteric, and cites the history of an intelligent woman who married at fifty, had sudden uterine pains, followed by flooding, on the wedding night, and who became melancholic and bent on suicide. When menstruation ceased she got well. Savage has called attention to the development of insanity upon betrothal earlier in life. So far the author has referred only to mental disturbances associated with normal uterine function, or at least with no evidence, except in the disturbed nervous sphere, of organic trouble in the sexual apparatus. Dysmenorrhœa, menorrhagia and amenorrhœa, with or without anæmia and chlorosis, have been frequently observed in association with, and as the cause of various insanities and nervous affections, as chorea, epilepsy, hallucinations and amnesic states. Hysteria, that complex and poorly understood neurosis, is so often found associated with these perversions of menstrual function as to have been noted by every observer. Barnes wisely says that hysteria is frequently the forerunner of insanity. Though not directly related to the subject of his paper the author calls attention incidentally to the association of insanity with obstinate constipation, especially to that form characterized by accumulations in the cæcum and transverse colon, the bowels acting perhaps daily, but never emptying. In such cases you get in addition to the effects of mechanical pressure and irritation of the pelvic organs, certain forms of toxæmia due to the absorption of fecal matter. To this kind of empoisonment the author has given the name "copræmia." He relates an example, in his own practice, of insanity associated with this condition, and quotes from a note from Dr. Alexander Newington, an alienist, reporting four cases of acute mania "cured" by clearing out the transverse colon of

large fecal accumulations by means of the long tube with oil. "If we pass next to the neuroses that attend morbid or diseased conditions of the uterus and ovaries," says Barnes, "we get even more striking evidence of causation." Among such conditions his experience proves displacements to be quite frequent and retroflexion or version, with prolapsus, the most common of all; pressure upon the sacral plexus and irritation of the highly organized (female) lower cord is the explanation. He has himself cured a number of cases of insanity, due to such causes, by surgical or other treatment, relieving the uterine disease, and he quotes similar cases from Brownington, C. E. Louis, Mayer, Schroeder, von der Kolk, Fleming, Maudsley, Arbuckle, of the West Riding Asylum, and Greisinger.

Ovarian disease is of equal, or even greater importance as an agent, producing mental alienation, but with regard to this phase of the subject a new factor presents itself for consideration in the by no means infrequent development of insanity as a *result* of operation for removal of the ovaries. Sir Spencer Wells has had such experiences. Dr. Savage, of Birmingham, had, out of 483 double ovariectomies (26 deaths), 4 cases of insanity. Thomas Keith has not observed any mental failure following removal of the ovaries alone, but out of 64 hysterectomies with removal of both ovaries, six (6) became incurably insane. Lawson Tait, on the other hand, with an equal if not greater experience, has never observed any case of insanity among his patients [non-observance does not necessarily involve non-existence]. The author suggests that the subject should receive most careful and extended investigation. Such experiences are not, after all, an argument against operation or other procedure for the cure of ovarian disease, which precedes and probably causes the mental disturbance. As to the question, "Are we justified in operating upon a lunatic who cannot give a responsible assent, clear indications existing for the operation?" the author quotes the advice of the English Home Secretary, Sir Wm. Harcourt: "If she is incapable of judging for herself, treat her as a child." Barnes does not believe in the advisability of removing the ovaries for epilepsy, the experience of Lawson Tait having been decidedly unsatisfactory. Incidental reference

is made to a peculiar type of insanity, dependent upon disease of the generative organs in women, which is of great medico-legal importance. It is characterized by hallucinations, sometimes amounting to delusions of violation, and may be the only evidence of mental disorder. False charges of rape and seduction may originate in such delusions.

The insanities of pregnancy and the puerperal period are considered under a separate division, apparently with the object of emphasizing the importance of this phase of the subject. The author insists upon a close analogy between parturition and menstruation, which he considers a "mimic pregnancy" (labor?), extending the analogy to include the associated or dependent disturbances of the nervous or mental system which belong to both conditions. As to the cause of the nervous disturbances of pregnancy, he believes them to be a result of high nervous and vascular tension; the nervous disorders (including mental derangements) of puerpery and lactation are the result of shock, lowered nervous and vascular tension, and spanæmia with toxæmia. The hypothesis is advanced that minor degrees of thrombosis may constitute a stage or factor in the production of these insanities. The paper concludes with an urgent appeal for the establishment in all institutions for insane women of a systematic and careful examination for possible causes of mental derangement in disease of the pelvic organs, which, when found, should be relieved, if necessary, by operation.

The subsequent discussion, participated in by such distinguished men as Hlack, Tuke, Savage, Bantock, McNaughton Jones, Wilks, Percy-Smith, Edis and others, constitutes an exceedingly interesting array of opinions, which should be read in their entirety to be fully appreciated. Only a brief reference to the most salient points is permitted by the limits of this synopsis. Dr. Savage, while readily admitting a frequent and more than accidental relation between insanities and disease of the pelvic organs, stated that as a fact only a relatively small number of cases in insane asylums had been benefited by the results of examination in this direction. In connection with the subject he suggested, as worthy of investigation, the question as to the advisability of ovariectomy for insanities associated with or caused by masturbation. As to

the insanity of pregnancy he observed that it was but the exaggeration of the usual disturbances of an ordinary pregnancy, such as hallucinations or perversions of taste, smell, morbid desires, etc. He thought it wrong to induce labor in such cases, since he had seen such cases not improved by miscarriage. [Miscarriage and induced abortion are, however, not the same, and the effect upon the woman is probably radically different, as was suggested by Dr. Barnes in closing the discussion.]

Continuing, Dr. Savage remarked that sexual perversion as a form of insanity was quite often dependent upon or associated with malformation or disease of the generative organs, citing a case with an infantile uterus occurring under his own observation. Dr. Wilks alluded to several cases of morbid preoccupation on the subject of the genitals, which had culminated in insanity, and asked how far the mind, being directed in a particular channel, might be productive of mental symptoms. [Might not the mind be so directed by local disease?] Dr. Bantock spoke with special reference to the experiences of Keith, with which his own experience did not agree. He thought Keith's observations decidedly exceptional, and his own views coincided with those of Lawson Tait. He urged the necessity of nice discrimination, admitting the undoubted relationship of pelvic disease to insanity in certain cases. Dr. McNaughton Jones related the case of a patient with retroflexion and enlargement of both ovaries, who suffered for some time with melancholia and delusions regarding her parents; the uterus was replaced, the ovaries gradually reduced in size, and she made a perfect recovery at once. Another patient, with fibroid uterus, had a fixed delusion that during an examination her uterus had been pulled down and inverted.

(To be continued.)

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

CONDENSED REPORTS OF CASES IN DR. MACDONNELL'S WARDS.

Appendicitis—When to Operate.

The history of W. W., aged 19, illustrates a very important point, viz., that all the symptoms of general peritonitis may be present from the first to the last and the disease may be local. Also, that very great apparent improvement may take place in the course of such a case, sufficient to throw the medical attendant completely off his guard, and lead him to the making of a favourable prognosis.

W. W. was admitted on Dec. 24th, 1890. He was a delicate lad, and it was more than probable that there was a tubercular family history, though both his parents were said to be alive. Five days previously to admission he experienced a severe chill, but it was not for two days that he actually felt severe abdominal pain. This was felt to be in the centre of the abdomen, and it was increased by motion and by straightening of the legs. On the fourth and the fifth days there was severe vomiting.

On admission he represented the typical appearance of a patient with acute general peritonitis. The decubitus was dorsal, and the legs were drawn up. Abdominal pain very severe. Tenderness great and evenly distributed over the abdominal surface, which is extremely tense and board-like. Tongue red and furred, brown in centre, and white at the edges. Temperature 102.4°; pulse 120, fine and hard. The abdomen was poulticed, and fifteen minims of laudanum were given every three hours.

Dec. 27th (9th day).—A most deceptive lull in the violence of the symptoms was noticeable to-day. The vomiting, which had been troublesome since his admission, ceased, the temperature fell to 99°, and there was manifestly less abdominal tenderness. The question of operation was discussed, but this sudden spontaneous improvement decided us against it. On the next day it was too late. Pyæmia suddenly set in, showing

itself by sudden swelling of the right parotid gland and evidences of deep depression. He died next day (the 11th).

It was *ab initio* a case of appendicitis. The appendix was found doubled up beneath the cæcum. A large collection of pus surrounded the appendix, and extended as high up as the liver. There were some old peritoneal adhesions, but no recent general peritonitis.

A history resembling that of Typhoid Fever—Gradual development of Peritonitis—Death—Autopsy—Cancerous Peritonitis.

D. C., a delicate man, aged 28, a waiter, admitted Jan. 31st, 1891. Nine days before admission he began to complain of pains in the back, tenderness in the abdomen, and, on one or two occasions, vomiting. No epistaxis; no diarrhoea.

On admission, the temperature was 100.8°. Tongue moist, slightly coated with a thin white fur. It was not suggestive of typhoid fever. Pulse 110; heart sounds weak. Spleen not enlarged. The abdomen was full, prominent, and equal on both sides, tender on firm pressure, especially so in right iliac fossa. There is no dulness on percussion. No spots.

11th day.—Sharp pain in right iliac region. Temperature suddenly rose to 104.5°. No chill. At this stage of the disease it was thought that an obscure appendicitis was the cause of the symptoms.

20th day.—The symptoms have nearly all subsided. He has had a slight pharyngitis, but it has now quite disappeared.

32nd day.—Up to to-day the patient appeared as if he were convalescing, but to-day the temperature began to rise, and the abdominal pain returned with great severity. The tongue became coated, and there was some diarrhoea, the spots being thought to be of a typhoid character.

In the next two days the pain was very severe, but it was not localized. Vomiting became almost incessant. These symptoms subsided, to return about the 38th day, when the pain was noticed to be distinctly localized in the right iliac fossa. The vomiting returned and there was also severe hiccough.

Result of Autopsy—(Dr. Wyatt Johnston.)—Abdomen was tense ; subcutaneous fat scanty and of deep yellow colour ; surface of liver somewhat soft and covered with a grayish-white exudation ; coils of small intestine are somewhat reddened, and show a thin whitish, fibrinous smearing, though the peritoneal lustre is not lost ; small bowel greatly distended with fluid fæces. In the right iliac region the coils of intestine are adherent together. At about the middle of the ileum a loop is formed by an adhesion there, through which a knuckle of bowel is passed. No appearance of strangulation, though the bowel had to be torn in attempting to separate the adhesions, which were firmly organized. This matting was most marked in the right iliac fossa, and a firm mass lay just above the brim of the pelvis, formed by a tumor at the base of the mesentery. On removing the intestines a series of fæcal fistulæ were found between the intestines in the lower iliac region. The relation of the parts cannot be definitely made out, but the tumour surrounds a large fungating ulcerated surface involving the whole circumference of the ileum near the valve. On separating the adhesions it was found that the wall of the intestines and the parts immediately surrounding it are seen to be infiltrated with dense firm, gray tissue, apparently a new growth. The vermiform appendix in the region of the cæcum was surrounded by dense cicatricial tissue. Microscopical examination of the ulcerated mass in the ileum reveals carcinoma of the large cylindrical-celled variety.

Reviews and Notices of Books.

Cyclopædia of the Diseases of Children—Medical and Surgical. By American, British and Canadian Authors. Edited by J. M. KEATING, M.D. Vol. IV; illustrated. Philadelphia : J. B. Lippincott & Co.

The high standard reached by the articles in the previous volumes is fully sustained in this, the last volume of the series. Dr. Burnett opens the volume with a most interesting article on Diseases of the Ear in Children. He tells us that children constitute $22\frac{1}{2}$ per cent. of the cases attending his department at the Philadelphia Polyclinic, evidencing the importance of the subject to the practitioner. His excellent remarks on the hygiene of deaf children, in which he insists on the necessity of making use of and training even very imperfect powers of hearing in children, should be very generally read. They should not be allowed simply to drift into institutions for deaf and dumb, when want of use will surely destroy the little power they may have left. Three lengthy chapters are devoted to Diseases of the Eye. That on Ophthalmoscopy, by Dr. Oliver, is a most valuable one, and deals very fully with the appearances presented by local and symptomatic disorders of the choroid, retina, and optic nerve. Its illustrations are numerous and of a high class. Dr. Keating and Dr. Young conjointly constitute a long but very interesting article on Physical Development. It opens with a discussion on the ideal form of the human body, and the exact proportions it is desired that the several parts should bear to one another, and then proceeds to speak of the value various exercises have in strengthening and developing symmetrically the whole, and discusses the relation between mental and physical development. He quotes Sargent, who says that college men take about the same grade in their general studies as in their required athletics. In referring especially to the development of boys, Bowditch's and Roberts' tables are given indicating the relation between the weight and height of growing boys. From these it is evident that the period in a boy's life between the 16th and 17th year is one of great importance, during which no

and should be thrown upon his developing constitution, and efforts at strength or physical endurance should not be undertaken until this period is safely passed. The method employed at the Sargent is the *Herman Way Gymnasia* at Harvard University. Each student, upon his entrance, is thoroughly examined and an exact record kept. His deficiencies noted, and a special order of appropriate exercises prescribed. The improvement he makes is noted from time to time. The plan of the struggle for physical training has been so successful that he is induced to take a genuine interest in his improvement, to want to remedy his defects, and to pride himself on the way in which the firmness of his muscles, the suppleness of his joints, and the beauty of his figure. In his remarks on physical education for the females, Clark's four essentials requisite for a good education of the female—1st, a sufficient supply of food and nutrients; 2nd, a normal management of the menstrual functions, including the building up of the reproductive system; 3rd, mental and physical work so apportioned that the body need waste and a margin be left for general and special development; and 4th, sufficient sleep.

Every interesting article in *School Hygiene* is attributed to a definite person. In speaking of the personal hygiene of the school, he represents no tendency among teachers to urge cleanliness, sanitation and the living well enough already, with the excuse that such may be a to be removed from school for a longer while. "Regular screening should not be commenced until the sixth or seventh year." "Every minute the child spends in school after his power of attention is exhausted is time wasted, he needs a restoration which is clear loss to the school." The various ailments, hygienic, chronic, nervous, and infectious, etc., are discussed in their relation to the school, and in the section on internal hygiene, the site, ventilation, heating and lighting of the school-room is discussed, together with questions as to how to deal with the contagious diseases.

There are also articles on Massage, Prophylaxis of Disease, and Hygiene of the Child, and Women's Legal Testimony.

As a reading schedule more than half of the volume,

is devoted to diseases of the nervous system. It is opened by an interesting chapter on the Diagnosis of Diseases of the Nervous System by Dr. A. McLane Hamilton. Among the articles calling for special notice is one on Intracranial Tumors, by Dr. M. Allen Starr. A very interesting article on Toxic Affections from Arsenic and Lead, by Dr. J. J. Putnam. Dr. Charles B. Nancrede contributes a chapter on the operative Surgery of the Brain and Cord. Dr. Jas. Stewart writes clearly on the Primary Muscular Atrophies. Sachs contributes an excellent article on Chorea, and Dr. Mills an able article on Hysteria in Children.

Both editor and publishers are to be congratulated on the completion of this work. At present it stands pre-eminent in its department, and reflects credit on all the American profession. The paper, type, printing and illustrations are all of the highest order.

A. D. B.

Surgical Bacteriology. By N. SENN, M.D. Second edition. Philadelphia: Lea Bros. & Co. 1891.

That a second edition should be called for in less than two years is evidence both of the worth of the book and the interest taken in the subject. The special value of the book lies in the fact that it consists of a very full compilation of the important researches on a subject which is very imperfectly treated in text-books. In the second edition the work has been brought up to date without being materially increased in size, and a chapter on the alleged microbes of tumors has been added. It is to be regretted that no notice has been taken of recent work upon the action of disinfectant agents, which is a matter of much greater importance. A compilation of the different views with regard to the influence of bacteriology upon surgical technique would also have been a great addition, as the explanations given by various operators of their results are most contradictory. We are surprised to see that, in the chapter upon sources of infection, the bacteria present in the air are considered to constitute the chief danger. As each chapter, however, is complete in itself, these omissions do not lessen the value of the book to any one wishing to be well posted in the modern views with regard to surgical infectious diseases.

Text-Book of Bacteriology. By CARL FRAENKEL, M.D., Professor of Hygiene, University of Königsberg. Third edition. Translated by J. H. LINSLEY, M.D. New York: Wm. Wood & Co. 1891.

Those who are frequently asked to recommend a good, practical work on bacteriology will hail with relief the appearance of a translation of Prof. Fraenkel's well known work. It combines a description of the bacteriological methods with a very full, systematic account of the more important germs, and is for this reason to be preferred to any other work hitherto published upon the subject. One of its chief beauties lies in the fact that a large amount of complicated and confusing technical detail, now known to be unnecessary, has been left out. It is, without doubt, the one book necessary to anyone wishing to work at practical bacteriology. The only defect of the book lies in the fact that it has no illustrations, the original idea having been to supplement it by an atlas of micro-photographs. Fortunately, the absence of illustrations is made up for by unusually clear and vivid descriptions which have been remarkably well rendered in the translations. [W. G. J.]

Syllabus of Post-mortem Methods. For the use of Students in the Montreal General Hospital. By WYATT JOHNSTON, M.D., Pathologist to the Hospital. Montreal: G. Ashford. 1891.

This little book is a thoroughly practical guide in the technique of post-mortem examinations. The order and method of examination of the different organs are clearly given, and the dissection of the heart is illustrated by a couple of excellent diagrams. An account of the precautions to be observed in the performance of medico-legal autopsies is appended, and will prove a useful guide to those who are occasionally called upon to perform a post-mortem for this purpose. The weight of the normal organs and the method of drawing up a report are also dwelt upon. From personal observation we can heartily recommend the book as a reliable guide in the subject with which it deals.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, 15th May, 1891.

F. J. SHEPHERD, M.D., PRESIDENT, IN THE CHAIR.

Dr. G. Laforest was elected a member of the Society.

Combined Lateral and Posterior Sclerosis.—DR. J. STEWART exhibited this case. The patient, a man aged 42, first showed symptoms of his trouble two years ago, in the form of weakness, stiffness, and difficulty in walking and standing, especially when the eyes were closed. When he came under observation two months ago, there was paresis of the lower limbs with marked ataxia and increased knee-jerks. It was noticed, however, that in the course of the following month the knee-jerks gradually diminished, and were now completely absent. This was considered to be evidence pointing to the extension of the degenerative process from the postero-internal to the postero-external columns.

DR. JAMES STEWART read the notes of a similar case which had been under his observation at the Montreal General Hospital for a period of some weeks two years ago. The patient was 43 years of age, and presented the characteristic symptoms of combined lateral and postero-internal sclerosis. The patient died from erysipelas.

DR. FINLEY, who performed the post-mortem, was able to demonstrate the existence of degeneration of both the lateral (crossed pyramidal) and postero-internal fibres.

DR. RODDICK inquired as to the cause.

DR. ELDER asked, if a case be seen early, what symptoms would lead to a diagnosis between postero-lateral sclerosis and tabes?

DR. STEWART, to Dr. Roddick's question, replied that the patient had a history of syphilis, which he believed to be the cause. To Dr. Elder he answered that in tabes the knee-jerk was invariably lost, besides the presence of the Argyll-Robertson pupil, and lightning pains.

Pericarditis.—DR. FINLEY exhibited this specimen for Dr. Wilkins. The pericardial sac contained a large quantity of pus. The inner surface was covered with lymph and some fibrinous adhesions between the visceral and the parietal layer. The outer surface was also involved. The left lung was found glued to the pericardium. The endocardium was healthy. The chief point of interest was that the lesion was primary, there being no history of Bright's disease or rheumatism.

Appendicitis.—DR. ARMSTRONG read a paper on this subject from a case in practice, which appears in this issue of the JOURNAL.

Discussion.—DR. HINGSTON was doubtful as to the case being one of appendicitis. He had seen more than one case of appendicitis, when on the eve of an operation there would be a discharge of the pus. He thought that in such cases the pus emptied more frequently into the bowel.

DR. JOHNSTON had found pus in the retro-peritoneal region, the result of an appendicitis,—a large peri-nephritic abscess which he believed at first to be connected with the kidney, but on careful dissection, a narrow sinus was found leading down to a perforated appendix which lay behind the cæcum.

DR. SHEPHERD had seen the case reported by Dr. Armstrong and was still of the opinion that the case was one of appendicitis. The appendix had been found bent on itself and closely attached to the posterior wall. It had perforated beneath the iliac fascia and extended upwards.

The Late E. H. Trenchard, M.D.—The following resolution of regret was proposed by Dr. Hingston, seconded by Dr. Armstrong, and carried:—

"That this Society has learned with regret of the death of Dr. E. H. Trenchard, for many years a useful and active member: That it records its sense of his ability as a gynecological surgeon and as an original observer."

THE
Montreal Medical Journal.

VOL. XX.

JULY, 1891.

No. 1.

CANADIAN MEDICAL ASSOCIATION.

The twenty-fourth annual meeting of this Association will be held in Montreal on the 16th, 17th and 18th September next.

The Association has been in existence for nearly a quarter of a century, and ought by this time to be in such a position that its meetings would be looked forward to with the greatest of interest by the members. But how lukewarm has this interest been? When one considers the fact that there are no less than 3,500 practitioners in the Dominion of Canada, it is, to say the least, disheartening to find, as has been the case within the last few years, an average attendance of only one hundred or one hundred and fifty members at the meetings. It is to be hoped that the profession will arouse itself from this apathetic condition and evince a great deal more interest in the future meetings of this Association.

In view of the meeting of the Canadian Medical Association being held just previously to that of the American Association of Physicians and Surgeons, it is expected that many of the representatives from the mother country and the continent will avail themselves of the opportunity and attend the next meeting of this Association.

BRITISH MEDICAL ASSOCIATION—MONTREAL
BRANCH.

Dr. Ernest Hart, the able and energetic editor of the *British Medical Journal*, honoured our city with a visit the other day on his way from the East. At his request a meeting of the profession was hurriedly called to discuss with him the advisability of forming here a branch of the British Medical Association.

On the evening of June 19th some thirty medical men assembled in the rooms of the Medico-Chirurgical Society. Dr. Shepherd, as president of the Society, was called to the chair.

Dr. Hart gave a very interesting address, referring first to his trip round the world, and especially to his sojourn in Japan, where he spent much time in studying the history of medicine in that remarkable country. He then went on to state that it was the desire of the Council of the British Medical Association that colonial branches should be formed on the same lines as the so-called "Provincial Branches" at present so universal in Great Britain and Ireland, and which have been found such a source of strength to the mother association. The doctor stated that among the advantages accruing from membership and the annual payment of \$5.25 were included an *entrée* to the Metropolitan House in London, which afforded many of the privileges of a club, and the receipt of the *British Medical Journal*. He further proceeded to explain that local branches had a large latitude for autonomous government, organization and development according to their various needs. They might hold their meetings once a year or once a month, as they pleased, and either in one centre or in various centres they might meet either as the whole branch or in sections according to locality. Where societies were numerous and well developed they were not in any way interfered with, nor had it been found in the oldest settled communities that the prosperity of any local institution was in any way interfered with. Thus no local jealousies arose, and while the Association fulfilled its great purpose of uniting the whole profession of this great empire in bonds of friendship and brought them constantly into touch with each other it aimed at fulfilling only such local needs as were found to require supplementing. He concluded by expressing his gratification at the unanimous and cordial manner in which the proceedings had been taken.

The following resolutions were then moved and carried unanimously :—

Moved by Dr. Hingston, seconded by Dr. Geo. Ross : " That this meeting of members of the medical profession, resident in Montreal, cordially sympathizes with the work of the British

Medical Association in bringing the members of the medical profession throughout the whole extent of the British Empire into direct union and frequent intercommunication for the purpose of promoting mutual friendship, advancing scientific knowledge, and furthering the general interests of the medical brotherhood ; and that it will use its best efforts to promote the extension of the membership of the British Medical Association throughout the Province of Quebec."

Moved by Dr. Geo. Armstrong, seconded by Dr. J. Chalmers Cameron : " That it is desirable that a Montreal branch of the British Medical Association be constituted, and it is hereby constituted, subject to the sanction of the Council of the British Medical Association, its laws and by-laws."

Moved by Dr. Girdwood, seconded by Dr. Wilkins : " That the following gentlemen be, and they are hereby appointed, officers of the Montreal branch, pending sanction by the Council of the Association : President, Dr. Hingston ; 1st Vice-President, Dr. Geo. Ross ; Treasurer, Dr. James Perrigo ; Honorary Secretary, Dr. J. C. Cameron. Other members of Council—Dr. T. G. Roddick, Dr. F. W. Campbell, and Dr. Geo. Wilkins, with power to add to their number."

Dr. Cameron and Dr. Perrigo at once proceeded to enter upon their functions, and twenty-six of the gentlemen present signed forms of application to be admitted as members of the Montreal Branch of the British Medical Association. Dr. Cameron, hon. secretary of the branch, will be glad to have the names of other intending members throughout the city and province in order that as full a list as possible may be at once forwarded to the Council of the Association for election at their next meeting. We wish the branch every success.

—The Ontario Medical Association has had another of its successful meetings at Toronto. We congratulate this live Association on its well merited success, and regret that a combination of circumstances prevented the profession of this city from being more largely represented on the occasion referred to.

Personal.

Dr. James Stewart and Dr. A. A. Browne are at present in Germany.

Dr. Craik, Dean of the Medical Faculty of McGill, leaves in a few days for London, where he will represent the Provincial Board of Health at the Sanitary Association.

The many friends of Dr. T. A. Rodger, chief medical officer of the Grand Trunk Railway, will regret to learn that he has been dangerously ill from erysipelas, having been confined to bed for the past six weeks. Hopes are now entertained of his speedy recovery.

Publisher's Department.

DR. COULTER'S COMBINED VAPORIZER AND INHALER.—We desire to express our very satisfactory experience in the use of the above inhaler. The points which we consider especially worthy of notice in this instrument are, firstly, its extreme simplicity. One drawback often experienced in the use of inhalers when left in sick rooms is their liability to get out of order. This is impossible with so simple an apparatus as this one; a vessel of water, a spirit lamp, and a sponge constitute the main parts of the apparatus. Secondly, as a vaporizer it cannot be too highly valued, and to those who have never employed it, it might at first seem incredible that such an immense diffusion could be produced from so small a quantity of disinfectant or volatile oil used with one of the smallest instruments. Only a few minutes are required to permeate an entire house. As a means of disseminating a disinfectant, it would be difficult, indeed, to surpass it; also as a means of introducing moist air into a chamber, so often required in the bronchial affections of children. It is an admirable contrivance, distributing the moisture evenly and rapidly. For disinfected the room and clothing it is equalled only by the superheated steam chamber, and where such cannot be obtained, the large inhaler of Dr. Coulter's can be substituted with advantage. It can be used in any room, large or small, no preparations being requisite; but the least valuable use to which the vaporizer can be put is the perfuming of rooms. We know of an instance where half a drachm of essence of lilac was sufficient to perfume a large house with the sweet smelling aroma by the aid of the vaporizer. Altogether we commend it as one of the best vaporizers for sterilizing rooms and producing hot or cold vapors as required. *Chronic.* June 1891.



THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

AUGUST, 1891.

No. 2.

Original Communications.

ON INFANTS' FOOD.*

By A. D. BLACKADER, B.A., M.D.,

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One of the subjects which must give us no little thought and trouble at all times, but especially during the summer weather, is how to feed the infant deprived of its maternal supply. Its food must be sufficiently nourishing—i.e., should contain albuminous, fatty, saccharine, and saline ingredients in proper proportions, neither too little nor too much, or nutrition will suffer; it must be easily digestible, else will colic, vomiting or diarrhoea supervene; and it must be practically a sterilized food, free from bacteria or other micro-organisms, else will the infant run the chance of being poisoned by some product of their activity. Many investigators are endeavouring to solve the difficulties which surround the subject. Practically, all unite in regarding cow's milk, or some preparation of it, as the only serviceable substitute for human milk. He would be a rash physician who would dare to order a permanent diet for an infant in which milk did not enter; and every patent food in the market is dependent on it for much of its nutritive material.

The use of cow's milk, however, is attended with some difficulties, which must be clearly appreciated, and overcome, if we would succeed in attaining our three requisite conditions. These difficulties may be briefly stated as follows:

1. Cow's milk contains about double the amount of the

* Read before the Medico-Chirurgical Society of Montreal.

... and these albuminoids appear
... in much larger proportion
... human milk. This large amount of
... of indigestion to the infant. The
... slightly larger amount in human
... and human milk is always distinctly
... even when fresh, gives generally a

... primarily obtained, especially during the
... many varieties of microbes, for which
... nature dund, and during summer weather
... it are generally contaminated with
... and with their frequently poisonous

... can be obtained in almost unlimited quanti-
... to the infant without any regard to
... between times of feeding, we have not the
... as we have when the infant is depen-
... and with careless or ignorant nurses, we are
... the other two difficulties, that of over-

... difficulties alone could defeat an attempt
... with cow's milk, but operating, as is usually
... the wonder that artificial infant feeding
... and that such a large percentage of
... in our province, and in our city, perish
... from diarrhoeal diseases.

... however, has done a great deal, and,
... difficulties have been solved, yet,
... and ourselves in trouble.

... the winter I was confident that we
... sufficient data on which to construct an
... our knowledge of the composition of the
... accurate to enable us to alter the one
... in chemical composition.
... with Soxhlet's apparatus, or in an
... sufficient for the one
... can be administered to the infant

in a practically sterile condition ; while—thanks to the work of Snitken, Holt, and others—we have definite and correct ideas of how much should be given at each time of feeding, and the interval that should elapse between the feedings.

In some of my cases, these means carefully carried out yielded gratifying results, but in others my hopes were disappointed. The infants, though apparently free from digestive troubles, did not thrive, continued to look puny, and only very slowly increased in weight, clearly indicating that my food was faulty.

Since then several communications have from time to time appeared in our medical magazines, where others have related a similar experience ; and corroborating this clinical experience, Dr. Hiesland of Philadelphia and Dr. Leeds of New York have published the results of their individual investigations on the effect that prolonged heat has on the milk. They both speak very similarly of the changes which milk undergoes in the sterilizing process. Their observations may be briefly epitomized as follows :—

I.—The starch liquifying ferment, galactozymase, which exists in normal cow's milk in minute quantities, is destroyed when the heat rises much above 165°F. (75°C.).

II.—A portion of the lactalbumin is coagulated.

III.—The casein, after the action of prolonged heat, is less readily coagulated by rennet, and yields slowly and imperfectly to the action of pepsin and pancreatin.

IV.—The fat globules are injuriously affected by the heat. The fat is freed to some extent, and after standing, small lumps of butter fat are sometimes observed on the surface of the milk, while the portion not freed has a decidedly lessened tendency to coalesce. When sterilized and unsterilized portions of milk were churned, and a note made of the time required to form appreciable amounts of butter, the unsterilized was found to yield a larger amount in considerably less time than the sterilized.

V.—Milk-sugar, by long-continued heating, is completely destroyed ; that it undergoes some change in the process of sterilization is shown by a lessened dextro rotatory power.

It would appear, therefore, that milk, sterilized as we have been doing it, must be regarded as distinctly less readily and less perfectly digestible than raw milk. The destruction of the galactozymase, the coagulation of the lactalbumin, and the alteration of the casein, so that it is more slowly acted on by rennet, all presumably diminish its digestibility by the gastric juice of the infant; while the changes in the fat globules, noted after prolonged sterilization, whatever be their nature, must interfere considerably with their digestion and assimilation.

Yet even with these disadvantages, the testimony of most of the physicians connected with the large foundling hospitals and dispensaries of New York is that it is decidedly to be preferred, as the lesser of two evils, to milk swarming with bacteria. Under its use, the percentage of lives saved has been largely increased, and the number of cases of summer diarrhoea much diminished. But is it not possible to avoid these disadvantages? We all know the benefit that ensues in most cases, when we are able to order the infant to the fresh milk and pure air of the country. Sometimes, for those living in the suburbs, it may be practicable for the family to keep their own cow and attend carefully to its feeding and milking. But for the great majority of the infants in our city, neither of these plans are available; and the question arises, Is all this sterilization necessary to obtain a practically sterile food? Dr. Leeds answers in the negative. He finds that cow's milk rendered feebly alkaline, and heated, as soon as received in the morning, to a temperature of about 155° F. (68° C.) (somewhat short of the degree of heat necessary to coagulate the galactozymase), is rendered practically sterile. His remarks on this point may be quoted:

"It is evident, in the first place, that no milk having an acid reaction, is in a proper condition to be heated, because of the effect of acidity upon coagulation. And inasmuch as cow's milk, as delivered to consumers, has usually developed a notable acidity, the addition of the requisite amount of a suitable alkali is the first point to be considered." By experiments he found that it required, to neutralise this acidity, about 2½ grains of sodium carbonate or 9½ grains of ordinary liquor calcis to the pint of

milk. "On making gelatine-peptone cultures, one drop of the original milk yielded 400 colonies of bacteria after five days' culture at common temperatures, while the same milk rendered very feebly alkaline with lime yielded 250 colonies. Another sample yielded, per drop, 43 colonies after four days and 3,500 colonies after six days. This milk alkalized by lime gave 14 colonies in the four days and 211 colonies in the six days. After heating for ten minutes in sterilizing flasks at 100°C ., both the original and the alkaline milk were practically sterile, developing from 1 to 4 colonies per drop after four days culture. Raw milk, after heating to 68°C . for an hour, proving to be practically sterile (1 to 2 colonies per drop), the experiment was tried at keeping the temperature at 68°C . for six minutes, when the same result was obtained. On cooling and diffusing the cream which the heating had brought to the surface, the appearance and properties of the milk heated to this temperature in no wise noticeably differed from raw milk."

A difficulty arises in securing the proper amount of heat, if we are to have this degree of sterilization carried on in the household. At my suggestion, Mr. Dyer has made a series of experiments with milk contained in glass flasks and heated in an Arnold sterilizer. Having, at the outset, the water in the sterilizer and the milk in the flasks at ordinary temperatures, placing the sterilizer over a brisk Bunsen gas-burner, it took about twelve minutes for the milk in the flask to reach the temperature of 155° . If, now, the gas be turned out, and the cover of the sterilizer be placed slightly ajar, and the milk left in for another five minutes and then removed to a cool place, all the sterilization necessary will have been effected, and none of the deleterious changes will have taken place.

In feeble infants, when the digestive powers are very weak, Dr. Leeds recommends the combination of peptonization with sterilization, the temperature never being allowed to exceed 68°C . Once the temperature rises over 75°C . changes occur which interfere with the digestibility of even the peptonized milk.

In some families even sterilization as directed above, cannot be obtained, either from ignorance or poverty, and in such cases

the use during the summer months of a good brand of condensed milk may perhaps fulfil the conditions. As the condensation of the milk is conducted *in vacuo*, a temperature above 155°F. is, I understand, never reached. Condensed milk has the disadvantage of being very deficient in the amount of the fats it should contain—the cream being to a great extent removed in the process, to secure an absence of rancidity in the prepared article. If condensed milk is used permanently, this element must be replaced by cream, or, perhaps, cod-liver oil, in the cooler months. In preparing this condensed milk for the infant, water that has been boiled, but that has been allowed to cool to about 155°F., should be used.

In the preparation of cow's milk for the infant, the large excess of the albuminoids which it contains must always be borne in mind; but in simply diluting it, we must remember we increase the already existing deficiency of the fats and sugars. In a city, and especially during hot weather, cream is always a doubtful quantity and generally contains many bacteria, and for these reasons, I think, should rarely be used in infant feeding. The deficiency of the carbo-hydrates may, however, be often advantageously supplied in children, over two or three months of age, by the addition of a prepared flour of one of the cereals. This method has been long a favorite one with Dr. Jacobi and Dr. Lewis Smith. The cereals used have been principally barley, wheat, and oatmeal, and of these my preference is for the barley. It is the blandest and most nutritious, contains the largest amount of the phosphates, and has neither a constipating nor relaxing action on the intestinal canal.

Mr. Dyer has, at my suggestion, prepared a food of pure barley flour, in which the starch granules have been altered by the action of a heat of 212° maintained for five or six days. At the end of this time the flour has assumed a somewhat yellow colour, a slightly sweeter taste, and a not unpleasant cooked odour. He has had the changes in it carefully examined by Dr. Ruttan, who has found that the starch has been partly converted into dextrose and is thus rendered decidedly more soluble in the juices of the infant stomach.

The addition of such a flour as this to cow's milk, either pure or condensed, does to some extent prevent the formation of large curds, and must supply some of the deficiencies produced when we simply dilute the milk. In the young infants, we should advise its use more as a diluent of the milk, but in infants over six months of age, it may form a fair proportion of the food.

RUPTURE OF THE CAPSULE OF BOTH LENSES, WITH OTHER DAMAGE TO THE EYE, FROM PLEURO-PNEUMONIC COUGH.

BY CAREY A. WOOD, C.M., M.D.,

Pathologist to the Illinois Eye and Ear Infirmary; Professor of Ophthalmology,
Chicago Post-Graduate Medical School.

Rupture of the capsule of a transparent lens commonly occurs in consequence of a direct injury accompanied by a penetrating wound of the globe, and is often associated with dislocation of the crystalline. It rarely happens under other conditions. When it does, the accident is, as a rule, caused by intra-ocular pressure from tumors and other morbid products within the eye, and is then due to a solution of the capsular continuity. According to Swanzy*, blows with the fist, from champagne and aerated water corks, etc., may rupture the capsule without any wound of the coats of the eye, but such instances are, to say the least, rarely met with. If the force employed be great enough to bring about capsular rupture, it almost always dislocates the contained lens. Dr. Ezra Dyer† observed the eyes of five criminals executed by hanging. Of the ten eyes, only six sustained dislocation of the lens, and the minority rupture of the capsule *in situ*.

Becker‡ relates an interesting case: A man, æt. 20, was chopping wood, a piece of which hit him in the ocular region. Although no trace of a wound of any sort could be found in or about the eye, either at the first examination or during the further progress of the case, a small rupture of the anterior

* Diseases of the Eye, p. 279.

† Trans. Am. Oph. Society, vol. ii, p. 354.

‡ Graefe und Saemisch, Bd. v, S. 276.

capsule was discovered. The lens, in consequence, became cloudy, gradually came forward into the anterior chamber, and underwent a slow absorption there.

Aub* has published the following history: J. H., aged 14; eight days before consultation had been struck with considerable force in the left eye by a piece of wood. Much inflammation resulted, which mostly disappeared on treatment. On examination, the anterior chamber, iris and anterior capsule were found to be normal. There was, however, an opacity at the posterior pole and diffuse vitreous opacity. Atropine was used, after which it was discovered that the post-polar opacity was due to a rupture of the posterior capsule and a commencing cloudiness of the lens fibres about the seat of the trauma. From that time onward the traumatic cataract increased in size, and the swollen lens protruded through the ever-widening rent into the vitreous. Finally the patient became blind, but after several discussions the lenticular mass underwent absorption, the capsular remains were torn apart, and vision equalled fingers at 13 feet. This defective sight resulted from the presence of two choroidal ruptures, involving the macular region.

Arlt† relates a unique case: P. K., æt. 34, large and strong, short sighted since childhood, became, in September, the subject of retinal detachment, right eye. I saw her in October, when the visual acuity was one-half. Left eye, $V = \frac{1}{16}$. The right lens now gradually became cloudy. In May the family physician was sent for, because, without apparent reason and during the night, sight in the right eye had undergone a decided change. He found the lower half of the anterior chamber filled with cloudy lenticular masses. As these set up considerable irritation (tender globe, pericorneal injection, headache, etc.), a corneal incision was made and the lens matter removed.

In this instance, as there was no sort of injury or shock, one must conclude with the writer that it was a true case of spontaneous rupture of the anterior capsule, although it is possible that the capsular fibres had in some way first become weakened as a result of the retinal disease.

* Archives of Oph. and Otolaryng. Vol. II, p. 222.

† Monthly Jour. of Oph. Assoc. of Montebello, 1882.

Letenneur* mentions a case where a spontaneous rupture of the anterior capsule occurred, followed by the usual swelling of the lens and its presentation in the anterior chamber. But in this case there had been a concussion cataract ten months before, and there may have been, at that time, some interference (not readily made out by any kind of examination) with the integrity of the capsules.

Bresgent† reports an interesting example—the only one I know of in literature—of bilateral rupture of the anterior lens capsule caused by placing the four-year old patient in a cold bath as a remedy for basilar meningitis. This was on the fifth day of the disease. On the sixth day the eyes were injected, pupils did not react, and there was an irregular rent in both anterior capsules through which masses of cloudy substance protruded. In another week the lens had become so far absorbed that in the depths of the eye a double *choroiditis metastica* (from the meningitis) could be diagnosed. The child survived. The choroidal disease probably weakened the lens capsule and rendered it more liable to rupture from the congestion produced by the bath.

Ulrich's‡ well-known case is as follows: A merchant applied for treatment of a recent, left-sided, non-specific iritis. Cornea and aqueous were cloudy and iris attached by exudation to lens at pupillary border. Atropine and hot applications were applied, and on the fifth day the posterior synechiæ above mentioned had been torn away, but in the lower quadrants they still remained. Two days afterwards the patient said that as he was quietly sitting in a chair, it seemed to him "as if a plaster had been clapped over his left eye." Next day the lens could be seen projecting into the anterior chamber. Tension greatly increased. The lens was subsequently extracted and vision, with glasses, was one-third. Writer thinks that the rupture of the capsule was due to the action of the atropine dragging upon the iritic adhesions, and that the lens suddenly came forward into the anterior chamber without its capsule.

* Archives d'Ophthalmologie. Tome iv, p. 292.

† Graefe's Archiv für Augenheilkunde. X, S. 267.

‡ Klin. Monatsbl. für Augenheilkunde, 1882, S. 230.

I am in a position to supplement the foregoing histories by that of another case. I first saw J. O., a dissipated man, æt. 35, in June of last year. Eleven weeks before he had had, according to the statement of his physician, a double pleuropneumonia (with high temperature, delirium, etc.) from which he finally recovered so fully that no trace of the attack could be detected in his lungs. In a few days after coughing began he noticed that the vision of his right eye, which previous to his illness had always been good, grew very weak; the lids swelled up, a watery discharge set in, and the eye itself became very red and painful. The pain gradually increased in violence until he was unable to sleep. Two days after this the other eye commenced to pain, and went through an experience similar to the first. When he came under my care the condition of both eyes was much the same and presented the following remarkable picture. Vision was reduced to the perception of shadows; T—2; considerable ciliary injections; very little lid swelling or pain; some ciliary soreness. The corneæ were smooth, flattened and vascular. There was no anterior chamber, or, rather, this space was everywhere occupied by yellowish-white lens matter, through which, in some spots, could be had glimpses of the iris. The latter seemed to be attached all around to the lenticular material. The pupillary space was entirely occluded by opaque, crystalline substance. There was some photophobia and stillicidium. Patient perceives candle light centrally only in right eye, but on the left side projection is fair at one foot. Treatment: blisters to the temples, atropine (1 p.c. solution), and general treatment. In September patient entered hospital and was operated upon there by a very competent surgeon, who attempted to remove through a corneal incision some of the lens matter from the right eye. When I saw him a month afterward there was some blood in the anterior chamber, but in other respects the situation was practically unchanged. On Dec. 30th the eye was quiet. T L—?; T R—1. There is less corneal injection. Nothing daunted by my colleague's failure, I did a preliminary dissection (double needle operation) of the lenticular remains in the right eye, and a few days subsequently succeeded

in removing a considerable amount of disintegrated lens matter through a peripheral incision in the cornea. These operations were repeated in the left eye some weeks later, and on neither occasion was the reaction severe. However, the effect upon vision has not been very encouraging. The opaque mass in the anterior portion of both eyes is made up of toughened lens matter glued to the iris by plastic, inflammatory exudations. I do not think that any operative procedure will give my patient useful vision; the eyes will very likely go on to *phthisis bulborum*.

A careful consideration of this case—the absence of a history of injury and the good projection remaining three months after the loss of vision—makes it highly probable that rupture of both anterior capsules was brought about by the pressure exerted upon them by severe coughing. It was a case of traumatic cataract of the “concussion” variety, and if this be true, it stands almost alone in literature. At least, I have so far been unable to find an account of a similar instance.

SYNOPSIS OF REPORTS OF CASES TREATED WITH TUBERCULIN.*

BY J. BRADFORD McCONNELL, M.D.,

Professor of Pathology and Lecturer on Physical Diagnosis, University of Bishop's College, Montreal.

The following six cases were placed on Koch's treatment for tuberculosis shortly after my return from Berlin, about the end of January, 1891. The progress of the cases has been carefully noted, as the accompanying charts and minute reports will show. Four were treated at the Western Hospital and two in a private hospital. All other means tending to build up and fortify the general system, as far as was indicated in each case, were adopted. Most of them used, more or less constantly, an antiseptic inhalation, consisting of terebene, thymol, ol. eucalypti, creasote, and chloroform. Cod-liver oil and cough mixtures were not given; medicines were occasionally given to stimulate the action of the digestive organs. Liquid malt and alcohol in the combination known as egg-nog were occasionally prescribed, and

* Read before the Medico-Chirurgical Society of Montreal.

physical exercise tending to develope and expand the chest was carried out as far as possible. Only three of the cases were such as would be chosen with good hopes of success. I shall only give the briefest outlines of the progress and condition of these cases during the treatment. I have preserved permanently all the slides made, showing the number of bacilli at each microscopical examination, the enumeration being according to Gaffky's scale.

CASE I.—J. B. F., aged 34, widower two and a half years; height, 5 ft. 11½ in.; weight, 133½ lbs.; occupation, lumber merchant. Has weighed 175 lbs. Family history free from phthisis. He married in 1886; his wife suffered at the time from incipient phthisis. He went with her to California in 1887; he attended her and occupied the same apartment until a month before her death in the spring of 1888. A few months before this he began to cough, the sputum being occasionally tinged with blood; the cough remained, with slight improvement at intervals, until last November, when, after exposure, he contracted a pleurisy on the right side, which kept him confined to the house five weeks. Physical examination gave evidence of deposits in both apices, with mucous râles over both supra-spinous regions; diminished respiratory sounds throughout right lung; body emaciated; temperature 2° to 3° above normal; respirations 20 to 24; sputum 2 to 4 oz.; bacilli present in proportion of 7, Gaffky's scale. Half a milligramme of tuberculin was given on Feb. 11th, and continued at intervals of two or three days until the maximum dose of .100 mgms. was reached on 23rd May. The injections did not give rise to any decided reaction, only accentuated the usual daily rise of temperature. Notable increase in amount of sputum. On March 5th the physical signs were more marked; three weeks later râles had disappeared and dullness on percussion less marked, and night sweats only on one or two nights each week. Appetite good throughout; weight remained about the same; temperature after first dose of 100 milligrammes only rose to 100.2°. This quantity was repeated, on alternate days, three or four times, when 102° was registered and the sputum increased to 6 and 7 oza. An attack of diarrhoea

had a weakening effect. June 8th, highest temperature 101.2°. Physical signs much the same as in the beginning.

<i>Bacilli</i> - Gaffky's scale—February 7		7
"	19	8
March	8	9
"	20	8
April	2	9
May	31	8

To continue the treatment.

CASE II.—Miss R., aged 23, single ; height, 5 ft. 6 in. ; weight, 100½ lbs. (former weight 138 lbs.) ; lung capacity, 70 cub. in. No cases of phthisis in her family. Menstruation normal. No previous illness. Began coughing in autumn of 1889 ; had several slight attacks of hæmoptysis, and cough continued during past year. Complains of an irritation in the throat. The apex of left lung gives all the physical signs of infiltration, with a few râles in the subclavicular region. There is also a catarrhal condition of the fauces. Sputum 2 to 4 fl. drachms daily ; bacilli 7, Gaffky's scale. Temperature was almost normal during the three or four days previous to first injection of .001 cc., which was given on Feb. 15th, 1891 ; slight reaction followed in five hours and on the two following days. The dose was gradually increased until the maximum of .1 cc. was reached on Feb. 22nd, which scarcely changed the normal temperature which had existed for some days previously. Two days after the first injection the sputum had increased to 1½ oz. ; during March it averaged about 1½ oz. daily ; after April 5th it ceased almost entirely, would have to wait for days to get sufficient for microscopic examination, and the cough, which had been less since first injection, also disappeared. Appetite improved from the beginning of the treatment. Complained several times after the injections of a pain at the base of the right lung and a hot feeling in the eyes, and the face became flushed when the temperature went above normal. Had no night sweats ; steadily gained in weight, about 1 lb. weekly ; and the subjective symptoms of weakness and irritation in the throat and chest gradually disappeared. The cachectic appearance which obtained on entrance was replaced by that of ruddy health..

Patient was discharged from the hospital on the 9th May; weight then 112½ lbs.; the spirometer test gave capacity of 80 without any great effort, a gain of 10 cubic inches; chest measurement had increased 2½ inches, and she had to change her waists in order to breathe comfortably.

Physical examination.—Slight dulness still on percussion over affected area; increased fremitus; broncho-vesicular respiration; no râles. The physical signs indicate a steady return to normal. The injections are being administered weekly still; there was a reaction with last one (2°), given June 19th. With this reaction about two drachms of sputum was coughed up, the first for about two months; there are no bacilli.

June 25.—100 milligrammes; weight 117 lbs. Has coughed some every day since last injection. Appetite not so good since she left hospital. Percussion gives a note of same quality at each apex. Bronchial breathing still in supra-clavicular region, harsh in the infra-clavicular region, and somewhat weaker than right side.

<i>Examinations for bacilli</i> —February 5		7
March	3	7
April	11	6
"	17	4
"	26	2
June	2	0
"	18	0
"	26	0

In order to be certain that no bacilli existed in the sputum, the whole quantity was treated according to Fenwick's method and allowed to settle two days; none could be found in the sediment.

CASE III.—Mrs. McL., aged 35. Her illness dates from January 1890; began with an attack of la grippe, followed by pleurisy, and later by bronchitis, from which she did not seem to recover. Present weight, 96 lbs.; former, 130 lbs. Lung capacity, 75 cub. in. Respirations 36; pulse 120; temperature 2° to 3° above normal. Night sweats. Marked family history of phthisis; lost five brothers and sisters, and mother. Is very much emaciated. Physical signs of deposits in upper

third of right lung, and less in left, with coarse râles in right. Chest measurements, 14½ in. right side; 13½ in. left. Sputum, 2 drachms; bacilli 6, Gaffky's scale. First injection on Feb. 3rd, ¼ milligramme repeated every second day. Sixth injection, .001 cc.; reactions were not marked. Bronchial respiration more marked after the first three or four doses. Patient's subjective symptoms improved; says she has not felt so well for two years; frequently complained of pain in right apex after the injections. At the end of 1st March the dose was only .002 cc., and was not increased until 15th March. Sputum now varied from ½ to 3 oz., and temperature reached about 102°. Appetite has been unusually good ever since treatment began. Sputum on one or two occasions tinged with blood. She feels a stinging sensation in the nose, and it gets red the day following the injection; eyes are weak, getting painful if she attempts to read. On May 1st weight was 103 lbs, the dose was then .020 cc. Night sweats and cough less. Cavernous respiration in right supra- and subclavicular and supraspinous region. A few mucous clicks opposite 3rd rib. Her general appearance was much improved, face rounding out, and she feels inclined to be occupied, sewing or knitting; she had not been able to do any work for a year back. On June 1st patient got .065 cc.; maximum temperature ranged about 102° each day. Sputum not more than half an ounce daily, and patient claims to be feeling unusually well. Physical signs show improvement in the condition of the lungs; no râles, and the cavernous respiration is changing to bronchial. Maximum dose given on June 23rd increased by ten milligrammes last two injections; patient not feeling so well; stomach deranged; she is getting very anxious to go home. Râles at both apices on front, and marked tubular breathing over supraspinous and right interscapular region; bronchial breathing over left supraspinous.

<i>Examination for Bacilli</i> —January	28	.....	6
Febr'y	28	.....	8
March	19	.....	8
April	2	.....	7
May	1	.....	7
June	1	.....	8
"	25	.....	8

The progress under the treatment was favourable up to a couple of weeks ago ; the large doses have caused rather much reaction, and there has been loss of appetite, with coated tongue, and she was tired of hospital diet. Undoubtedly her previous good condition would have been maintained had the doses not been increased so rapidly. I will continue the remedy at intervals during the summer. A cavity undoubtedly formed during the course of the treatment, which is evidently closing up.

CASE IV.—Mrs. V., aged 23 ; height, 5 ft. 2 in. ; weight, 180 lbs ; well-nourished ; florid cheeks ; lung capacity 90 cub. in. Father, mother and sister died of consumption. Illness dates from Sept. 1890. Persistent cough ; loss in weight ; digestive organs much deranged. There is tubercular infiltration in the upper third of right lung. For a week previous to beginning treatment the temperature in the afternoons rose two to three degrees above normal. Respirations 20 ; pulse 90 to 100. Sputum 2 oz. ; bacilli 8. The first injection ($\frac{1}{2}$ milligramme) was given on Feb. 3rd ; reaction slight, more marked after third injection of 1 milligramme, and sputum reached 4 oz. Injections were given every fourth day, and kept at two milligrammes throughout the month, temperature rising to about 102° each day. Sputum only 2 oz. Three and four milligrammes brought the temperature to 103°, returned to two milligrammes, and then stopped for two weeks, but temperature remained about the same. Began with two milligrammes again, and increased to 30, temperature still remains the same ; this dose was repeated four or five times, but the temperature remaining high, the dose on the 2nd June was reduced to five. Physical signs at present indicate the formation of a small cavity in right subclavicular region ; mucous clicks in left apex ; tubular breathing as low as 3rd interspace on the right side. The patient has steadily lost weight ; her digestive organs are constantly disordered, and has little appetite. No benefit from the treatment in this case. This is one in which surgical aid would appear to have been indicated, if one could have felt justified in recommending so serious an operation before the left lung

became implicated. Free drainage for the products of the changes taking place might have arrested the high fever which has obtained from the beginning.

<i>Bacilli</i> —January	28	.....	8
February	28	.....	6
March	8	.....	8
"	19	.....	8
"	31	.....	8
April	4	.....	7
May	31	.....	10
June	25	.....	8

CASE V.—T. K, aged 39; height, 5 ft. 10½ in.; weight, 140 lbs.; lung capacity, 140 cub. in. Father and two sisters died of consumption. Nervous temperament. Had syphilis five years ago; had slight attacks of la grippe about Nov. '90, and did not feel quite up to normal after; had slight cough and night sweats. Caught fresh cold first week in January; had dry cough and slight hæmoptysis; lost rapidly in weight and strength. Examination discovered evidence of infiltration in left lung as low as nipple and half way down chest behind. No crepitation; breath sounds scarcely audible. Sputum 6 drachms, very viscid; bacilli 7. Pulse 90; respirations 38, and daily elevation of temperature about 2° above normal. Half a milligramme was given on Feb. 3rd; slight increase in the daily rise of temperature. After the fourth dose of 1 milligramme was given the temperature was 101½°; pulse 100; respirations 36. Has had chills every afternoon since he first became ill; they are now more marked. Complained of headache after the injections, during the following day. Sputum 1½ oz., and brought up more easily. At the end of March, two months after beginning the treatment, the dose was only 2 milligrammes, temperature rising daily to about 102°. Had one attack of hæmoptysis; lasted two days. Physical signs were the same, except some fine crepitation over left supraspinous region. Appetite usually good. At the end of April got 7½ milligrammes, and daily temperature was 1° less. Patient was feeling well, all the symptoms improving, and physical signs showed less dullness on percussion; sputum, ½ oz.; weight 143 lbs. The next dose, unintentionally, was 20 mgms.;

temperature rose next day to 102° , and for three weeks continued to rise to from 102° to 103° ; chills and cough became worse, and complained of pain in left lung, over lower third, and about waist, chiefly due to excessive coughing; crepitant râles over upper third of left lung and a friction sound at base behind. Lying on left side brings on cough. Symptoms gradually improved, temperature not rising above 100° , so that on 29th May injections were resumed; began with 2 milligrammes; these have been gradually increased to 15 milligrammes on the 25th June. Patient has returned to his usual duties, the reaction is slight (averaging 100°); no chills, and he is gaining what he lost during last month. He is being congratulated by his friends on the general improvement in his appearance and capabilities; has very little cough, except during the day following the injections. Sputum about $\frac{1}{2}$ oz. daily.

June 25th.—Weight, $133\frac{1}{2}$ lbs.; cap. 140. Physical signs: dullness throughout upper third of left lung; increased vocal fremitus and resonance; breathing almost inaudible during ordinary respiration; no râles. The stationary condition of the lung, with little tendency to disintegration of lung tissue and improvement in the general symptoms, indicate a resolution of the disease similar to what is sometimes seen under favorable climatic treatment.

<i>Bacilli</i> —January	28	.....	7
Feb'y	19	.....	8
March	8	.....	7
"	19	.....	6
April	2	.....	7
May	30	.....	6

CASE VI—Was one of advanced phthisis in a young lady, both lungs and the larynx being implicated. Fifteen doses were given of from a half to two milligrammes. The cough was rendered less distressing, but the fatal result was only hastened by the use of tuberculin. Its application was acquiesced in more to satisfy friends who were anxious to have everything tried that might be of use to her than with any expectation of a favorable result being obtained.

We can gather from these cases that *tuberculin* has a specific

action upon tuberculous tissue, tending more or less rapidly towards its degeneration or disintegration. That in a mild case, where the progress is slow, it can bring about a speedy resolution of the disease. That better results are most likely to follow where the remedy is given in small doses and is not pushed too rapidly, and only slight local reaction aimed at. That it is very necessary to keep the patient under the best possible conditions favorable to health in order to aid the remedy in arresting the tuberculous process. That when constant high temperature follows, only minimum doses should be employed, or stop the remedy until it does not rise above, say, 100°. That even in advanced cases, decided improvement follows in some instances. That where the tendency of the disease is towards rapid progress, the remedy will only hasten the disintegration of the affected tissues and the fatal result. That we get favorable results from tuberculin when aided by the usual general treatment of pulmonary tuberculosis far exceeding that from any treatment hitherto employed, but much has yet to be learned in regard to the methods of employing the remedy to the best advantage, and as to the proper time when its action may be supplemented with advantage by surgical treatment of the affected lungs.

Retrospect Department.**QUARTERLY RETROSPECT OF GYNÆCOLOGY.**

By T. JOHNSON-ALLOWAY, M.D.,
Instructor in Gynecology, McGill University Montreal.

(Continued from page 67.)

Painful Menstruation.—DR. CHAMPNEYS concluded his Harveian Lectures on Painful Menstruation with a consideration of the symptoms, causes and treatment of spasmodic dysmenorrhœa. This he believed to be the only real dysmenorrhœa; it was also called neuralgic, obstructive, and mechanical dysmenorrhœa. It was essentially primary. The pain typically preceded the flow, and was relieved by it; it was situated in the womb, and intermitted or varied. It usually lasted from twenty-four to forty-eight hours, and differed in intensity. The flow was scanty, and the symptoms got worse with time. Marriage did not relieve it unless pregnancy and delivery ensued. Dr. Champneys summarized the mechanical theory of the causation of this variety of dysmenorrhœa under the heads of flexion, stenosis, and chronic congestion produced by flexion; and he then proceeded to show that this theory was inadequate. The evidence usually produced in favor of flexion as a cause was (a) difficulty in passing the sound; (b) evidence derived from specimens of flexed uteri; (c) the illustration of bent tubes. The evidence of stenosis was (a) congenital stenosis with "pinhole os"; (b) swelling of the uterine mucous membrane; (c) fibroids; (d) polypi; (e) contortion of the cervical canal from hypertrophy; (f) increased flow of blood. Dr. Champneys then discussed the question as to whether flexions were essentially associated with dysmenorrhœa, and quoted the statistics compiled by Professor Vedeler in Stockholm and Dr. Herman in London.

Hæmatocele and Hæmatoma.—VEIT, in a paper on this subject (*Med. Anzeiger zum Centralblatt f. die ges. Medicin*, 1890) read before the last International Medical Congress, contends for a more exact diagnosis between intra- and extra-peritoneal hemorrhage. An effusion of blood within the healthy peritoneal

cavity never becomes encysted ; if the bleeding ceases, the blood is absorbed ; if it continues, death results. In order that a true hæmatocele may be formed, either the effused blood must be encapsulated or slow bleeding must occur into a cavity already formed by adhesions, as is usually the case in extra-uterine gestation. The diagnosis of free hemorrhage into the peritoneal cavity rests upon the presence of the usual signs of profound anæmia, and not on physical signs, since nothing pathological can be palpated ; the differential diagnosis between hæmatocele and hæmatoma, on the other hand, is not usually difficult, as a tumor is always felt. When the former condition is suspected the abdomen must be opened at once. Landau, in discussing this paper, denied that the recognition of a considerable quantity of free blood within the peritoneal cavity was difficult ; dullness of the abdomen on percussion would give a clue to this condition. While it was true that blood effused within the normal peritoneal cavity did not coagulate, and consequently tended to become absorbed so long as it was in contact with living epithelium, coagulation would take place as soon as the epithelial layer was destroyed at any point ; this might occur from the irritation caused by the stagnating blood itself. As soon as coagulation took place, the formation of pseudo-membranes and encapsulation would follow.

Metrorrhagia : Should Thirst be Quenched ?—Dr. JORISSENNE (*Archives de Tocologie*, Jan. 1891) combats the principle of allowing plenty of drinking water to patients exhausted by flooding, whether after labor or in fibroid disease. The practice is advocated on physical and therapeutic grounds. Yet its defenders admit that there is diminution of the plasticity of the blood in these cases, and administer steel and other remedies in order to increase that plasticity. The absorption of enormous quantities of water into the circulation must have the opposite effect. Dr. Jorissenne maintains that the patient should not be permitted to drink freely. Slices of sugared lemon or acidulated drops should be administered in order to quench thirst. The patient, he adds, should be kept in the recumbent posture, with the arms raised ; from time to time ammonia may be inhaled. This treat-

ment is especially advisable in women subject to deficiency of colored blood corpuscles. Eighteen years ago Dr. Jorissenne tried his line of treatment on a woman of 58, who was dying from hemorrhage after abortion at the third month. She was a stout, anæmic multipara, of violent temper. There was difficulty in removing the placenta, and both plugging and astringent intra-uterine injections failed to check the bleeding. The patient fell into a desperate condition. Dr. Jorissenne noticed that she was continually drinking tumblerfuls of cold water. Considering that the source of hemorrhage was being fed, he strictly forbade all drinks, raised the arms, rubbed the lips with vinegar and lime-juice, gave the patient ammonia to inhale, and plugged the uterus again. No drink was allowed for three hours. The patient then rallied and recovered, and is now alive, a healthy old woman. He was successful in two other cases of flooding; one after abortion, between the second and third month; the second after a lingering labor, mismanaged by an ignorant midwife. These cases were less serious than that above described, but Dr. Jorissenne was able to commence his treatment much earlier. He admits that in very plethoric patients this dry treatment of flooding might be harmful if too rigidly enforced.

The Vaginal Operation in Extra-Uterine Pregnancy.—Dr. CHRISTIAN FENGER presented a paper upon this subject at the December meeting of the Chicago Gynæcological Society, in which he reviews the literature of the subject and endeavours to show the indications for the advisability of the vaginal operation in its relation to laparotomy for the same condition. The vaginal operation, he says, is to be considered only when the sac or foetus is located so deeply in the retro-uterine fossa that it pushes the walls of this region outward so as to form a prominent tumor in the posterior wall of the vagina, provided the position of the foetus renders extraction possible without turning or laceration of the tissues. As to the frequency of such location of the foetal sac as to render this form of operation advisable, he concludes that it occurs in about ten per cent. of the cases of extra-uterine pregnancy. As to the *prognosis* of the operation, he says that the statistics show that the mortality presented

nearly fifty per cent. as compared with the mortality of laparotomy, which is seventeen per cent., but believes that the mortality may be lowered by the observance of strict antiseptic precautions, which was not carried out in all the cases included in the above statistics. Of the *dangers* of the vaginal operations he mentions (1) hemorrhage, which is always difficult to control owing to the limited field for securing bleeding vessels. Severe hemorrhage was noted in four out of fourteen cases, causing death in two reported by Rupin and Tate. He believes that in view of this danger it is advisable to leave the placenta as far as possible undisturbed to come away by spontaneous detachment. In four of these operations done soon after rupture of the sac, reported by Simpson, Lewers and Goelet, with four recoveries, there was severe hemorrhage in two cases, of Simpson and Lewers. In one case the hemorrhage was caused by attempt at removal of the placenta, but in two cases the placenta was removed without hemorrhage; (2) the danger of sepsis resulting from retention of the placenta; (3) the difficulty of removing the child through the vaginal opening at or near full term. When the foetal sac has been transformed by suppuration into an abscess cavity, the treatment has the same indication and prognosis as in abscess cavities of other origin in the pelvis. In cases of this character he believes the vaginal operation is preferable to laparotomy, and cites eleven cases reported by Herman where there were nine recoveries and only two deaths. As to vaginal operation early in pregnancy, it is uniformly condemned by all authorities; but Herman has collected six cases, to which may be added one reported by Bernays, making seven in all. Three of these cases were operated upon before rupture of the foetal sac, with two recoveries and one death; four were operated upon at the time of or soon after rupture, all of which recovered. Although the mortality of these cases was only fourteen per cent., dangerous sepsis, requiring frequent antiseptic irrigation, occurred in five out of the seven reported by Thomas, Harrison, O'Hara, Goelet, and Bernays, in one of which (O'Hara's) fatal peritonitis occurred. In regard to this operation he draws the following conclusions:

resistance of the os internum with one swoop of the knife, which the dilator will accomplish only after a long time. Besides being the quickest, it is also the most humane procedure from the patient's standpoint, because she experiences no pain from the operation, being etherized. In the operation for simple stenosis of the cervix, take the urethrotome, make a small incision on the right side of the cervix and then another similar incision on the left side, till the sound passes into the uterine cavity with absolute freedom. Then taking the dilator (Sims's dilator is the most practical one of all), introduce it, and dilate until the calibre of the cervical canal is about equal to half an inch or so; then introduce the rubber stem to keep the canal open, leaving it in position for from six to seven days. The operation is not a bloody one in any sense, and is entirely free from risk.—(*Practice.*)

Gonorrhœal Salpingitis.—Dr. TERILLON states that gonorrhœal salpingitis presents three modes of invasion. (1) Acute vaginitis, followed by endometritis, and finally by salpingitis; (2) mild vaginitis, sudden development of pelvic peritonitis, the early symptoms of salpingitis; (3) absence of vaginitis, uterine and tubal gonorrhœa. The first two varieties are due to infection with the virus of an active gonorrhœa; the third variety to the virus of an old or latent gonorrhœa. Salpingitis, according to the statistics of Fournier, occurs in one-fifth of all cases of gonorrhœa in the female. When the disease is limited to the mucous membrane of the tubes, and but little pus is formed, the prognosis is favorable. At the menopause all symptoms generally disappear. It must be remembered, however, that even in this relatively benign form, life may be endangered at any moment by the sudden development of peritonitis. But suppuration, with encystment, is more frequent than this simple catarrh. The pus sac may rupture either into the uterus or into the rectum, or, far more frequently, into the peritoneum, provoking a fatal peritonitis. A similar peritonitis may develop before any accumulation of pus in the tubes, from mere extension. In non-encysted cases a small quantity of pus may escape from the tube, producing a local peritonitis with the formation of false

membranes, which constitute a protective envelope. This may rupture at some point with a similar result, and, so on, even fifteen or twenty times, as Terillon has observed, constituting a relapsing peritonitis. Gonorrhœal salpingitis is nearly always double, and consequently entails sterility.—(*Bull. Médical.*)

Indications for Laparotomy.—Prof. CHROBAK of Vienna said (*Med. Press*), in a long paper, that these were very different according to the social condition of the patient. As a general rule, however, when strength was enfeebled, the patient unable to work, and life a burden, laparotomy should be performed. In ovarian cysts the operation was indicated as soon as the diagnosis was confirmed. Longer delay endangered the patient; inflammation, torsion of the pedicle, rupture of the cysts, etc., might occur with serious consequences. In malignant ovarian swellings we are often forced to operate, owing, unhappily, to difficulty of diagnosis. He recognizes the fixing of the sheathes in the lower pole of the swelling to be a sure sign of malignant growth. It is important to determine, before operating, if the tumor can be removed entire or in part. The implication of the bowel is the common difficulty, and is the most perplexing to decide. Myoma are suitable cases for laparotomy, as they are rapid in their growth, with hemorrhage not always checked easily, while the pain usually embitters life. Besides, these tumors usually cause a good deal of disturbance in neighboring parts; inducing inflammation, cystic degeneration, ascites, aneurism of uterine arteries, etc. Chrobak enumerates cystic degeneration, new growths, special tubo-ovarian cysts, tubercle of tubes, pyo-salpinx in connection with the uterine appendages, where laparotomy is imperative. In other cases where operative measures are not necessary, he recommends the use of potas. iodide, ichthyol, uterine dilatation, tamponing, massage and electricity.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

CONDENSED REPORTS OF SURGICAL CASES UNDER THE CARE OF DR. RODDICK.

(Reported by DR. R. E. McKECHNIE, House Surgeon.)

CASE I.—*Scirrhus Mammæ ; Operation.*

M. M., female, single, aged 61. Her general health had been good, and the menopause had been passed ten years previously. There had never been a case of cancer among her relatives, her mother, aged 80, being still living. Eleven months previously, lancinating pains began to be felt in the left breast, and a month later a small nodule was noticed, which has grown to be a mass, 3 inches by $2\frac{1}{2}$ inches, attacking the nipple and causing its retraction. The tumor was removed by the ordinary elliptical incision prolonged into the axilla, which latter was cleared of enlarged glands.

The method of procedure in this case was that adopted by Professor Bergmann, of Berlin, and other German surgeons. Before operating, the surface of the skin over and in the neighborhood of the tumor was thoroughly cleansed by scrubbing with antiseptic soap and hot water, and then washed with 1 in 2000 sublimate solution. During the operation no irrigation was allowed, the exposed surfaces being kept dry with pads of gauze, sterilized by dry heat; also, after the operation no irrigation was practiced, the surrounding skin being cleansed with wet towels and the surfaces exposed by the operation dried with sterilized gauze. Arteries were secured with catgut and the wound closed by catgut sutures. The only drain was a small one of catgut in the axillary end of the wound. No antiseptic powder was dusted over the wound, the parts being dressed merely with sterilized gauze.

In this case a very good result was obtained. The temperature remained normal throughout, and the note in the case-book shows that thirteen days after the operation the wound had united perfectly throughout its whole length, no gaping or sinus existing.

CASE II.—*Scirrhus Mammæ ; Operation.*

B. M., female, single, aged 27. Her previous health had been fairly good. Family history revealed a tuberculous tendency, but no record of cancer. Patient had noticed a lump in her breast for about two years, but paid no attention to it till six months ago, when it began to enlarge, and nipping pains were experienced in it. At the time of operation the tumor was about three inches in diameter, freely moveable, not retracting the nipple. It was removed by the ordinary elliptical incision prolonged into the axilla, the whole breast, with nipple, and some enlarged axillary glands being removed.

The same procedure was adopted in this case as in the former, irrigation being abandoned as soon as the operation began, and sterilized gauze used to dry the surfaces. The wound was closed by alternate silk and catgut sutures, and small tents of gauze were inserted at either extremity of the wound for drainage. The whole was then dressed with sterilized gauze and a rubber dressing.

The subsequent history of the case is, that at no time was there a sign of retention of discharges in the wound. The edges united by first intention, and the patient was discharged from hospital fourteen days after the operation, the wound being perfectly healed, with the exception of a small button of granulation tissue (no sinus) at either end of the wound, where the drainage tents had been.

**CASE III.—*Epithelioma of Lower Jaw and Floor of Mouth ;
Excision of Bone and anterior two thirds of Tongue.***

M. B., female, aged 59. Patient's general health previous to the present complaint had been fair ; the menopause occurred nine years previously. There is no history of cancer obtainable in the family. Three years ago the patient had had a plaster cast taken of the floor of the mouth for a set of false teeth. On removing the plaster, a piece of the mucous membrane, the size of a five-cent piece, was pulled off, just behind the middle lower incisors. The ulcer thus formed never healed. The present growth has only been noticed the past ten months,

and started from the site of this ulcer. Considerable pain has been experienced the past year.

On examination, a hard mass was found inside the lower jaw, attached to it, and extending from near the right canine tooth to the left wisdom tooth. No tributary glands were found involved. The tongue could be partly protruded, and, with the exception of the frænum, did not seem involved. An operation having been decided on, a horseshoe incision was begun opposite the lobe of the left ear, extended across the submaxillary region, and up through the centre of the lower lip. The lower jaw was sawn through, a little to the right of the symphysis, and removed by dividing the left ramus. The anterior two-thirds of the tongue with the floor of the mouth was also removed with the knife. Drainage was provided for through the floor of the mouth. Afterwards the cavity of the mouth was irrigated every four hours with a warm saturated solution of boracic acid, and the patient's strength kept up by nutrient enemata, every four hours, of pancreatized milk and whiskey. Convalescence was interrupted by an intercurrent attack of pneumonia, but, notwithstanding this, she was able to be sent home, over 200 miles away, in six weeks. For about ten days before being discharged she made attempts at talking, and, latterly, was able to make herself fairly well understood, despite the loss of two-thirds of the tongue.

CASE IV.—*Cancer of the Rectum ; Colotomy ; Recovery.*

H. M., male, aged 41. This patient was admitted to hospital in an extreme degree of prostration. For several months he had been suffering with an increasing difficulty in defæcation, accompanied by rapid emaciation. On examination, he was found miserably weak and exceedingly thin. The pulse varied from 120 to 130, and was irregular in both volume and rhythm. The abdomen was distended and tense, and much pain was complained of. There was complete occlusion of the rectum, by a hard, irregular, unyielding mass, evidently malignant, the examining finger being stopped about three inches above the anus. No fæces or even gas had passed for two days. Nothing

but a palliative operation could be thought of in the patient's extremely weak condition. Accordingly a left lumbar colotomy was rapidly performed, with but little loss of blood, the patient being only a short time under ether. A large quantity of semi-fluid fæces, with gas, was evacuated. The patient rallied from the operation, took nourishment well, and felt immediate relief. But on the fourth day pneumonia of the right base set in, considerably delaying convalescence. However, four weeks from the operation he had sufficiently recovered from the previous weakness and from the effects of the subsequent pneumonia to be discharged from the hospital. At the present date, three and a half months after the operation, he is feeling well, is strong enough to walk about, and the artificial anus is doing its duty satisfactorily. A recent examination of the mass shows that it has shrunk considerably since the operation, and with the exception of a little mucus occasionally, there is no discharge.

SURGICAL CASES UNDER THE CARE OF DR. SHEPHERD.

(Reported by DR. W. S. MORROW, House Surgeon.)

CASE I.—*Excision of Tongue, Floor of Mouth, and Right Tonsil, with preliminary Ligature of the Linguals; Recovery.*

Mrs. M. G., aged 58, admitted April 30th, 1891, with a growth on the right side of her tongue.

History—In February, 1890, patient noticed a small, hard lump on the right side of her tongue, which she ascribed to a sharp tooth. In August of the same year, as it was increasing in size, she consulted a doctor, who gave her caustic to use. The disease steadily advanced, but she persevered in the use of caustics until March, 1891.

Present condition—Patient is a spare woman, and believes she has lost considerable flesh during the progress of the disease. Her skin is somewhat loose; eyes bright; appetite moderate; bowels regular; disposition cheerful and hopeful; heart slightly displaced downward, otherwise seems normal; lungs and kidneys normal. The right side of the tongue is occupied by a

large ulcer with an indurated base extending from the tip to near the root. The floor of the mouth, on the right side, is also involved in the disease. The glands are enlarged and hard along the anterior border of the right sterno-mastoid.

May 6th.—Operation—Chloroform was at first administered, but the respirations became exceedingly weak, and ether was substituted. Breathing was good during the rest of the operation. After the usual cleansing of the seat of operation, the lingual artery on each side was tied by the usual curved incision extending from near the symphysis menti to the angle of the jaw, the convexity of the curve reaching to the hyoid bone. Through the right incision the enlarged glands before mentioned were removed. A gag was now put in the mouth and the whole tongue removed with scissors, with little hemorrhage. The floor of the mouth, the tonsil, and the submaxillary gland on the right side were found infiltrated, and removed through the incisions on that side of the neck. Oozing was stopped with Liq. Ferri Perchlor., 1-4. A large drainage tube was passed into the mouth through the wound on the right side, and a smaller one inserted in the wound on the left side. The mouth was swabbed out with iodoform paint and the external wounds dressed with iodoform. After the operation, the mouth was swabbed out with iodoform paint every day and irrigated with weak Condy's fluid every four hours until wounds were healed.

Patient was fed by enemata for four days, and after that by a gum elastic catheter passed into the oesophagus. She sat up in bed as soon as she was taken there, and was kept propped up night and day. On the fifth day she got up on a chair. On the sixth day the sutures were removed and also the tube leading into the mouth. On the ninth day the right ear became red and swollen, as well as the skin in its immediate neighborhood. Equal parts of alcohol and carbolic lotion (1-20) was applied. On the eleventh day the temperature reached 103.4°; no cough; no foetor of breath; wound granulating nicely.

Fifteenth day—The redness and swelling have spread to forehead since last note, but now it looks paler. Patient has been trying to drink without the catheter, but has not succeeded.

Nineteenth day—Ear is still a little red and swollen, but is much better than it was. Lead lotion ordered. Patient feels much better, and is out on the verandah. Floor of mouth healing nicely.

Twenty-ninth day—Patient discharged to-day. She has steadily increased in strength for past week. Wound on left side is quite healed; on the right side there is still a communication between the neck and mouth. She still has to use the œsophageal catheter.

Remarks.—In this case the operation was an unusually severe one, owing to the extent of the disease. The elevation of temperature was evidently due to a mild form of erysipelas which attacked the face, and which at the time was prevalent in the city, some cases having occurred in the ward a short time previously. The facility with which the involved glands, tonsil and floor of the mouth were removed through the neck incision is worthy of note.

CASE II.—Excision of the whole Tongue by Whitehead's method; Recovery.

S. W., male, aged 65, married, admitted May 25th, 1891, with a growth in his tongue.

History—About the 1st of March patient noticed some induration on the left side of his tongue. Since then it has been steadily and rapidly increasing. It has never caused him much pain. He comes of a long-lived family in which he never knew of a tumor. Is a farmer by occupation. Never uses liquor to excess, and does not smoke, but chews tobacco.

Condition on admission—Patient is a wiry-looking old man, who says he has lost flesh lately, and is now rather spare. Heart, lungs and kidneys normal. The growth is raised above the surface of the tongue and indurated; it extends on the left side from the tip to the anterior pillar of the fauces. In front it reaches the middle line; behind, it does not extend so far in. The glands at the angle of the jaw on the left side are enlarged.

May 30th.—Patient was etherised and the whole tongue excised with scissors according to Whitehead's method. After

the vessels had been tied, the raw surface was painted over with the styptic iodoform paint recommended by Whitehead. The patient's mouth was swabbed out every day with the paint, and irrigated every four hours with diluted Condyl's fluid till the wounds were healed. He was fed by enemata till the third day. From that time he was able to swallow liquids without any œsophageal tube. He was kept propped up in bed from the first, and on the third day got up on a chair for a while. At the end of a week he was going about as usual. The enlarged glands had entirely disappeared.

Thirteen days after the operation he left hospital with his mouth granulating nicely. He could talk intelligibly and take nourishment well. During the whole course of his stay in hospital his temperature never rose above 100°F.

Remarks.—In this operation, the method recommended by Whitehead was strictly followed, and with the best results. The lingual arteries were easily secured, for after the frenum, the anterior pillars of the fauces and the mucous membrane were cut, the operation was practically external. The operation proper took only seven minutes. The advantage of letting the patient up early was seen in this case. Whitehead's operation is admirably adapted to those cases where the tongue alone is involved in the disease.

Reviews and Notices of Books.

Text-Book of Ophthalmoscopy. By EDWD. G. LORING, M.D. Edited by FRANCIS B. LORING, M.D. Part II — Diseases of the Retina, Optic Nerve and Choroid: their Varieties and Complications. New York: D. Appleton & Co. 1891.

This is an elegant volume of two hundred and fifty-three pages, copiously illustrated in the text, besides some fifteen beautiful colored chromo-lithographic ophthalmoscopic sketches. The first volume of this work appeared some years ago. The talented author, Dr. Edward G. Loring, still a young man, was then in the prime of his active and useful career, which, to the great loss of his profession, terminated by his sudden death in April 1888. But in this work on ophthalmoscopy he has left a monument of which his country may well be proud, for there is no other work of the kind at all to be compared with this. The second volume was so nearly complete in manuscript at the time of his demise that the editor of part II determined "to publish it as it stood, without addition or correction." The concluding chapter, on "Affections of the Choroid," may, however, perhaps be said to lack the finish and elaboration otherwise characteristic of the work throughout. Doubtless most ophthalmologists are familiar with vol. I, and it is quite certain that none can afford to leave unexplored the rich mine of detail contained in vol. II. The author was not only a minute observer but a faithful delineator, and gifted, moreover, with the rare faculty of close and accurate description; thus it happens that the many years devoted to this work have given it a stamp of originality now rarely met with in medical publications. The illustrations are for the most part from original sketches by the author, and would no doubt have been more numerous had he been spared to complete the work himself. It must not, however, be understood from this that there are any palpable defects that might have been remedied by the author had he lived to complete it. On the contrary, it must be conceded that the science of ophthal-

mology owes more than gratitude to the editor, Dr. Francis B. Loring, for his great services in giving to the world the completion of this great work in its eminently satisfactory shape.

Sexual Neurasthenia (Nervous Exhaustion) : Its Hygiene, Causes, Symptoms and Treatment. With a chapter on Diet for the Nervous. By GEORGE M. BEARD, A.M., M.D., formerly Lecturer on Nervous Diseases in the University of the City of New York, etc. (Posthumous manuscript.) Edited by A. D. ROCKWELL, A.M., M.D., Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital. Third edition, with formulas. New York : E. B. Treat. 1891.

To the late Dr. Beard belongs the chief credit of placing the entire subject of so-called nervous exhaustion on an intelligent basis. In the work under consideration, attention is solely directed to that special clinical variety of neurasthenia known as sexual neurasthenia, as it occurs in the male sex. The work of the late author and the present editor in this particular field is too well known to require any special notice here. It is sufficient to say that there is no work in any language that deals with this important subject in such a complete manner.

Koch's Remedy in Relation Especially to Throat Consumption. By LENNOX BROWNE, F.R.C.S. Edin. Illustrated by thirty-one cases and by fifty original engravings and diagrams. Philadelphia : Lea Bros. & Co, 1891.

One of the unfortunate results of the introduction of a new remedy to the medical profession is the flooding of the medical literature with reports of cases which have been under observation for a comparatively short time, and the deductions from such cases as to the value of the remedy under consideration must necessarily be worthless. In the work before us we have such an example. It is to be noticed that the cases in Berlin, as reported in this book, were only examined by the author between the 1st and 5th December, many of them only having been seen once, whilst those under the author's own care are

reported after observation varying in time from nine to twenty-seven days. Deductions of no value can thus be drawn as to the usefulness of Koch's remedy in laryngeal tuberculosis from such imperfectly observed cases. The clinical history and histological features of laryngeal tuberculosis are well described.

A Hand-Book of the Diseases of the Eye and their Treatment. By HENRY R. SWANZY, A.M., M.B., F.R.C.S.L., Surgeon to the National Eye and Ear Infirmary; Ophthalmic Surgeon to the Adelaide Hospital, Dublin, etc. Third edition, with illustrations. London: H. K. Lewis. 1890.

The sale of the entire second edition of this work in a little over a year shows well the appreciation in which it is held by the profession. The present edition is thoroughly brought up to date. The chapter devoted to the value of certain eye-symptoms in the localization of focal cerebral disease has received much more attention than in either of the previous editions. It is a chapter prepared evidently with the greatest care, and is proof of the ability and thoroughness of the distinguished editor. The work, as a whole, may be confidently recommended to both students and practitioners as in every way representing modern ophthalmology. The publishers have performed their part, as they always do, giving us a work that is pleasant and easy to read.

Collected Contributions on Digestion and Diet.

By SIR WILLIAM ROBERTS, M.D., F.R.S., formerly Physician to the Manchester Royal Infirmary, and Professor of Medicine in the Victoria University. Philadelphia: Lea Brothers & Co. 1891.

The profession are to be congratulated in being able now to read, in a collected form, the various admirable essays published at different times by Sir William Roberts on matters relating to digestion and diet. This volume contains the Lumleian lectures "On the Digestive Ferments and Artificially Digested Food," delivered before the Royal College of Physicians in 1880, and

a course of five lectures "On Dietetics and Dyspepsia," given at the Owens College in 1885; papers "On the Therapeutics of Starch Digestion," "On the Estimation of the Amylolytic and Proteolytic Activity of Pancreatic Extracts"; and addresses "On Feeding the Sick," "On the Use of Gastric Antacids," and "On Some Practical Points in Dietetics." It will be seen that they cover a wide range of subjects connected with digestion, and it is hardly necessary to add that they are treated in a most able manner.

Familiar Forms of Nervous Disease. By M. ALLEN STARR, M.D., Ph.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, New York. With illustrations, diagrams and charts. New York: William Wood & Co. 1890.

This valuable contribution to neurological literature deals chiefly with the localization of cerebral and spinal disease, the first eleven chapters being devoted to these subjects. Chapters XIII, XIV and XV, dealing with the paralyses of infancy, multiple neuritis, and paralysis agitans, are fully, clearly, and ably dealt with. Judging from chapter XXII, which is devoted to the prescriptions in use in the nervous department of the Vanderbilt clinic, modern pharmacology is not cultivated with the same ardor as neurology. Many of the prescriptions, in a second edition, would be better left out. The work in every other respect is a worthy production, and reflects credit on editor and publisher.

A Compend of Diseases of Children. Especially adapted for the Use of Medical Students. By MARCUS P. HATFIELD, A.M., M.D. Philadelphia: P. Blakiston, Son & Co. 1890.

This little work, of most convenient size for the pocket, forms one of a series of quiz-compend published by Messrs. Blakiston. The author tells us it is founded upon the excellent "*Compendium der Kinderkrankheiten*" of Dr. Ernst Korma, but other authors have been freely drawn upon. We can easily imagine

these works to be of much service to junior students while attending hospital. The facts are clearly and tersely expressed under the distinctive headings of Definition, Occurrence, Etiology, Pathology, Symptoms, Prognosis and Treatment. Of its class, this work appears to be one of the best.

Origin, Purpose and Destiny of Man, or Philosophy of the Three Ethers. By WILLIAM THORNTON.
Boston: Published by the Author. 1891.

We are informed in the preface that the present work is a continuation of the author's "Rationalism in Medicine," and that this book is an elaboration of the former, which was a mere summary. We do not know the former, but if it were more concentrated than this, it must have been better adapted for some other sort of intelligences than for human beings.

It has been thought by many that the practice of medicine tends to make those who engage in it too materialistic. Against such tendencies this book must prove a valuable antidote to all who can grasp, if only faintly, its meaning—and that is all we can pretend to do ourselves. Everything depends on whether the food can be digested or not. It is rather too much for our own stomach, but possibly it may be different with others. The book may contain treasures of truths, but for not a few mortals it is sealed, whether happily or unhappily the reviewer sayeth not.

The Comparative Climatology of London and the Chief English Health Resorts. By BERTRAM THORNTON, M.R.C.S. & L.R.C.P., Lond. London: H. K. Lewis. 1891.

This is a small brochure, reprinted from an article which appeared in the *Lancet* of last year. It gives the daily range of temperature and amount of rain-fall at the various English watering-places, enabling a comparison to be made between them. Its interest will be confined in great part to English readers.

Influenza. Von Prof. Dr. DRASCHE, Ober-Sanitätsrath in Wien. Wien: Verlag von Moritz Perles. I. Seiler-gasse 4 (Graben). 1890.

This is an excellent brochure on Influenza, in its many phases. The subject is dealt with by the distinguished author in a thoroughly scientific spirit. The complications and protean sequelæ are fully considered. We have much pleasure in recommending the work to the notice of our readers.

Illustrated Lectures on Nursing and Hygiene. By R. LAWTON ROBERTS, M.D. (Lond.), D.P.H. (Cambridge), Member of the Royal College of Surgeons, England. With illustrations. London: H. K. Lewis. 1890.

Of many recent hand-books on nursing, Dr. Roberts' is, in our opinion, the best. It deals with the subject fully and clearly. It is enriched by numerous well-executed illustrations.

Society Proceedings.

BATHURST AND RIDEAU MEDICAL ASSOCIATION.

The eighteenth annual meeting of this Association took place at Gananoque on the 15th July.

The morning session was devoted to general business and the address of the president, Dr. A. F. Rogers of Ottawa.

DR. ROGERS reviewed the work done by the Ontario Medical Council and the recent changes in the Medical Act and curriculum of studies for the province. At its conclusion a unanimous vote of thanks was passed to Dr. Rogers for the work he had done as the representative of this district in the Council.

Resolutions of condolence were also passed on the deaths of Dr. Lavell of Smith's Falls and Dr. Potter of North Gower.

In the afternoon the following papers were read and discussed :—

Placenta Prævia.....	Dr. A. G. Allan, Gananoque.
Dislocation of Cervical Vertebra.....	
Obstruction of Bowel by Gall-stones...	Dr. R. H. Preston, Newboro'.
Acute Peritonitis followed by Intestinal Obstruction.....	Dr. Jos. Lane, Mallorytown.
Hermaphroditism	Dr. J. S. Atkinson, Gananoque.
Hereditary Predisposition of Nervous Disease	Dr. M. A. McFarlane, Ashton.
Medical Evidence.....	Dr. R. Mack, Ottawa.
Pyloric Stenosis.....	Dr. Emery, Gananoque.

A dinner at the Provincial House and an excursion through the Thousand Islands tendered by the members resident in Gananoque brought a very successful meeting to a close.

The following officers were elected for the ensuing year :

President—Dr. A. F. Rogers, Ottawa.

Vice-Presidents—Dr. T. H. Drumble, Gananoque ; Dr. A. A. Henderson, Ottawa.

Treasurer—Dr. H. Hill, Ottawa.

Secretary—Dr. H. B. Small, Ottawa.

Council—Dr. A. Crane, Smith's Falls ; Dr. S. Cornell, Athens ; Dr. A. W. Dwyre, Westport ; Dr. F. Hanna, Perth ; Dr. J. A. McCallum, Gananoque ; Dr. D. H. Rogers, Gananoque ; Dr. H. P. Wright, Ottawa ; Dr. A. J. Horsey, Ottawa ; Dr. P. A. McDougall, Ottawa.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, May 29th, 1891.

F. J. SHEPHERD, M.D., PRESIDENT, IN THE CHAIR.

Epileptiform Convulsions.—DR. J. A. SPRINGLE read the following clinical report : R. M., aged 12, had always been a healthy and active boy till August, 1888, when he developed peculiar convulsive seizures, somewhat maniacal, which were believed to have been produced by an undue exposure to the heat of the sun. He suffered from severe frontal headache, lasting, as a rule, for two days every second week. Four months later the fits changed in character. They now became like those of epilepsy, during which there were tonic and clonic spasms and complete loss of consciousness. They numbered from ten to twenty in the twenty-four hours, and each lasted for a few seconds. His condition gradually grew worse, and when first seen by Dr. Springle in October, 1889, he had had as many as fifty-seven fits in the twenty-four hours. Notes of the case taken at the time were as follows : Boy, aged 12, well-nourished, appears restless and idiotic ; is very destructive and mischievous ; is unable to concentrate his attention, and will not answer questions put to him. He has no delusions or hallucinations. He is unable to sleep and complains of pain in forehead. There are associated movements of the left eye and the lower jaw. The pupils are equal and active. The urine is passed involuntarily and the bowels are very constipated. There was no marked improvement in the patient up to May 1890. The fits were almost as numerous, and he appeared to be getting more and more stupid and listless from day to day. He had had long courses of bromides, the constipation had been attended to, and at times morphia had been given ; all these, however, produced but slight benefit. Dr. S. then decided to try the iodides, and gave ten grains potassium iodide daily. Improvement was observed in a week, and after a month's treatment he was free from the fits.

DR. BIRKETT had seen the patient with Dr. Buller. The

associated movements of the left eye with the lower jaw were interesting. This condition was extremely rare, but seven cases were on record. The ophthalmoscopic examination was negative. He thought the symptom merely a coincidence in the present case.

DR. F. W. CAMPBELL asked if a record of the fits had been kept, as it was important to know how much the iodide had improved the patient. In the treatment of epilepsy he had found nitroglycerine, of one per cent. solution, beginning with one drop, most satisfactory. He thought it advisable in Dr. Springle's case to push the iodide.

DR. PROUDFOOT had related a case last year before the Canada Medical Association, of a patient the subject of a calcareous cataract who had developed epilepsy. The eye had been excised and the patient had since been free from epileptic attacks.

DR. SPRINGLE remarked that the boy had been under treatment for two months. He was now free from fits and headaches, and was able to go to school.

Stated Meeting, 12th June, 1891.

F. J. SHEPHERD, M.D., PRESIDENT, IN THE CHAIR.

Cystic Ovary.—DR. G. E. ARMSTRONG exhibited this specimen, which he had removed from a patient aged 35. She had had an attack of severe abdominal pain on the 27th of May last, which was followed by other and more severe attacks on the 28th and 29th. The pain was of a tearing and bearing-down character, and was followed by syncope. On examination, a mass was felt at the left of the uterus, which, considering the severity of her symptoms, he decided to remove. On cutting down, he found nothing to account for the severe pain. A small cystic ovary was found, containing about two ounces of a clear serum. There were no adhesions, no twisting of the pedicle, and no rupture of the cyst.

Ruptured Tubal Pregnancy.—This specimen, also exhibited by Dr. Armstrong, was from a patient of Dr. Allen, whom he

had seen in consultation. She was a young married woman, the subject of uterine pains for the past three years. The attacks were severe, and recurred every four or six months. Menstruation had been irregular. Her last menstrual period had occurred four weeks previously, and had been accompanied by severe pain. On examination, a large fluctuating mass was felt to the right of the uterus. The patient appeared very ill. Her pulse was rapid and she was very tender, which rendered the examination somewhat difficult. Dr. Armstrong, from the history of the previous symptoms, had thought the case probably one of pyosalpinx. On opening the abdominal cavity, dark, recently-formed blood-clot welled up into the wound. The tube on the right side was found considerably enlarged and bleeding; this, as well as the ovary, was removed. It proved to be a case of tubal pregnancy which had ruptured between the fimbriated opening and showed the fully developed chorion. A drawing of the specimen, made by Dr. Springle shortly after its removal, gave a clear idea of the specimen in its recent state.

DR. FINLEY had noticed the corpus luteum in the specimen exhibited unusually large. Dwelling upon this, he remarked that it had been found extremely difficult to distinguish, in every case, the corpus luteum of pregnancy from that of menstruation.

Tuberculosis of the Kidney and of the Bladder.—DR. FINLEY exhibited these specimens for Dr. Roddick. The right kidney showed extensive tubercular disease, involving the cortical portion, which had undergone cheesy degeneration. The ureter and bladder had become secondarily affected. It was interesting to note, around the orifice of the right ureter, in the bladder, small tubercular ulcers, produced, as Dr. Finley believed, by the urine from the diseased kidney.

DR. SHEPHERD had seen the patient when first admitted to the hospital. He then complained of frequent and painful micturition. There was no pus in the urine. He had sounded the patient for stone, but nothing was found. Later on, pus appeared in the urine, which, on examination, was found to contain tubercle bacilli. Dr. Shepherd concluded from this and other cases that frequent and painful micturition were early and frequently the only symptoms of tuberculosis of the kidney.

Atrophia Papillæ Pylorum.—DR. T. D. REED related the case of a man, 35 years of age, who found that in spots, on his face, the hairs were readily extracted, and without the usual sensation of pain. This condition had existed for two years. It was accompanied by some itchiness. Microscopic examination showed the hair-roots atrophied. Nothing abnormal was found on the skin. The individual was in perfect health; syphilis could be excluded. Parasitocides had been used without result. New spots were appearing. The condition was apparently a tropho-neurosis. Some of the defective hairs, showing pointed and curved ends, were exhibited under a one-inch objective.

Infants' Foods.—DR. A. D. BLACKADER read an interesting paper on infants' foods. (*See page 81.*)

DR. RUTTAN stated that he had been consulted regarding the length of time required to convert barley flour into a more digestible form of food, and also regarding the nature of the change that had occurred. He made a number of experiments, the results of which may be briefly summarized as follows: Barley flour heated to 212°F. for 96 hours was much more easily converted into dextrose by boiling with dilute acids than was the original flour. This change was still more marked when the flour was heated for 144 hours; but if the heating be continued for 24 hours longer, the product became much darker and contained considerable maltose and a caramel-like body, giving it a bitter flavour. Experiments in the artificial digestion of the various products showed that the flour, after 144 hours heating, was very quickly converted into dextrose by an amylolytic ferment; 27 per cent. of the flour so treated was converted into dextrose in fifteen minutes, while but a trace of sugar was formed from the original flour in a parallel experiment. The analysis of the product at the end of 144 hours was made; the starch was nearly all changed into a form of dextrin—part, however, was in the form of amylin and a small part was apparently unchanged. Dr. Ruttan, in the course of his remarks, said he was unable to make out exactly what form of dextrin was produced; it was not ordinary British gum alone, but probably a mixture of soluble starch and some of the intermediate products formed as

...into maltose and dextrose. Ordinary British gum, used in postage stamps, etc., had never been thought of, but it clearly resembled the chief constituent in this way. This method of preparing maltose has long been followed in a crude way by the pauper's asylums. They simply tied the gum in boiling water for several days, the product to that analysed, but, of course, it was necessary to the production of a similar result to read the great advantages connected with the boiling of the gum was the coagulation of the gum into a finely granular state.

...congratulated the reader of the *Journal* on Dr. Blackader's remarks upon the advantages of condensed milk when other brands are compared to any particular brand.

...Blackader had had any experi-

...and that it was difficult to get rid of its disagreeable odor ; ...more advantageous to the child ...milk, the Anglo-Swiss ...

...1891.

...IN THE CHAIR.

...this specimen, which ... It was situated at the ... beneath the skin. ... particularly during ... sleep. Section of the ... fibrous tissue growing ... were found in it. The ...

Secondary Cancer of the Liver and Vertebrae—Painless Paraplegia.—The specimens were exhibited by DR. FINLEY for Dr. Geo. Ross. The history of the case, furnished by Dr. Spier, is as follows: Maggie C., aged 50, was operated on for scirrhus of the left breast about October 1890. The tumor had been first noticed eighteen months previous to this. In March 1891 she was again admitted to the hospital for pain in the right side, about the 10th and 11th ribs, and passing round to the spinal column. This pain was persistent, of only moderate severity, increased by movements, but never radiating to the legs or round the trunk. The woman was also anæmic, sallow, and weak. About May 12th the liver was noticed to be enlarged and nodular, and about this time she began to have some gastric disturbances, vomiting, nausea, and pain after eating, but no jaundice. On June 7th, paresis and œdema of both lower extremities came on, but there was never any pain, nor was the paralysis complete. There was no retention or incontinence of urine or fæces. Although the vertebrae were repeatedly examined, there was never found to be any tenderness, except over the last lumbar, and this was only slight.

Autopsy, June 22nd.—Body is moderately emaciated. There is a large scar over the site of the left breast, which has been removed, and some secondary nodules are present in it. The liver is somewhat enlarged, weighing 2050 grammes, and its substance is studded with a number of white nodules, the largest being $1\frac{1}{2}$ inches diameter. The centres of many of the superficial nodules are markedly depressed. A few small nodules, not larger than a pea, are seen lying under the visceral layer of the pleura. Several ribs show nodular swelling, and are softened by infiltration of cancerous tissue. The vertebrae were removed from the front from the last lumbar to the third dorsal, and their bodies, pedicles, and laminae are found infiltrated by a yellowish, firm growth, the bone being softened to such an extent as to be readily torn through or cut by a stout knife. There is a nodule at the level of the last dorsal vertebra, an inch in diameter, adherent on one side to the lamina of the vertebra, and on the other to the dura mater, narrowing the lumen of the

vertebral canal. The cord itself is firm and not flattened, and after hardening in Müller's fluid presents no signs of secondary degeneration. Microscopic examination showed the growth to be scirrhus.

The chief interest in the case centres in the paraplegia being of a painless nature, as such cases are usually accompanied by severe pain shooting along the course of the nerves. The duration of the case, as far as can be ascertained from its onset, was about two years and two months.

Traumatic Aneurism.—DR. SHEPHERD exhibited a portion of the radial artery which showed a small punctured wound, the result of a stab. The patient had had the injury attended to in the country. A week later a pulsating tumour had appeared at the bend of the elbow, which his medical attendant had tried to cure by compression. When he entered the hospital it was about the size of the two fists, and filled the whole of the space below the bend of the elbow. Dr. Shepherd opened the sac and turned out the blood-clot and a thick layer of fibrin; beneath this was noticed a small hole, which on further dissection proved to be in the radial artery, which was ligatured above and below and the injured portion removed.

Vesical Calculus.—This specimen was also shown by DR. SHEPHERD. The patient, a man, 52 years of age, had come to the hospital to be treated for an old stricture. He complained of frequent micturition unaccompanied by pain or hemorrhage. On passing a catheter the stone was discovered, which Dr. Shepherd subsequently removed by the lateral operation, as the patient had also an enlarged prostate. As the bladder was nearly always empty, he believed the calculus may have been retained in a sacculum of the bladder, which may account for the feeble symptoms of stone present in this case.

Report of Cases Treated with Tuberculin.—This paper, read by DR. J. B. MCCONNELL before the Society, will be found in another part of the JOURNAL.

Discussion.—DR. F. W. CAMPBELL, referring to the second case in Dr. McConnell's report, remarked that he had examined the patient and had found his report of the condition of the

lungs coincided with Dr. McConnell's. He had, since the treatment was commenced, followed the case from day to day and found considerable improvement—the dulness on the left apex had entirely disappeared and the breathing seemed almost natural. The patient's appearance was improved and she was now able to do household work.

DR. BULLER remarked that in the May number of *Zehnder's Klinische Monatsblätter* a case of tubercular disease of the conjunctiva treated by tuberculin is reported. Before commencing the treatment measures were taken to establish the tubercular nature of the conjunctival affection beyond all doubt. The reaction, both local and general, under increasing doses, was very considerable, and the former was displayed not only in the conjunctiva but in some enlarged glands near the ear; the latter suppurated and were eventually opened and scraped away, the wounds thus made healing completely. The conjunctival disease also apparently disappeared after about six weeks' treatment. Two or three weeks after the supposed cure another course of injections was instituted, producing severe constitutional, but no local reaction, and the patient was discharged apparently cured. Some weeks later, however, the conjunctival disease reappeared in its old form, and one of the scars where glands had been removed also became affected. The patient would not submit to another course of injections. Tubercular affections of the eye are, on the whole, very rare, and only a few have been so far treated with tuberculin, and the results, as far as I can ascertain up to the present time, have not been encouraging.

DR. SHEPHERD said that in surgical cases the results had been nil. There was no case of permanent cure.

DR. HUTCHINSON asked if cod-liver oil, generous diet, etc., had been given in conjunction with tuberculin in the treatment of the cases?

DR. EVANS wished to know if the cases had been under observation for some time before the treatment was begun?

DR. MCCONNELL answered that the patients had been under observation, and that everything possible had been done besides the use of tuberculin in the treatment. He believed one case cured.

The Bacteriological Examination of Diphtheria.—DR. WYATT JOHNSTON read a lengthy and interesting report on his investigations of the Klebs-Löffler bacillus in diphtheritic membrane. This important contribution will appear next month.

DR. ARMSTRONG asked Dr. Johnston if he knew anything of the mode of spreading of the Löffler bacillus? Whether the secretions could be disinfected and so lessen the danger of contagion?

DR. JOHNSTON replied that the spreading of the bacillus was not definitely known. It was very readily acted on by most disinfectants. He did not think that the toxicity of diphtheria depended upon the amount of bacilli.

Selections.

Arsenic in Disease.—In a lecture delivered by Jonathan Hutchinson (*Brit. Med. Journal*, June 6, 1891) in the London Post-Graduate Course, he reaches the following conclusions as to the remedial value of arsenic:—

In pemphigus it is almost an universal specific. We can speak with more positiveness as to its efficacy in this form of skin disease than in any other.

In common psoriasis the effect of arsenic is quite definite and certain, though not so immediately curative as in pemphigus. It requires to be pushed, and seldom brings about a complete cure without re-enforcement by efficient local measures.

In eruptions of the eczematous type we must speak with great caution as to the efficacy of arsenic. If given in anything like full doses in such cases it usually irritates and makes the eruption worse. In minute doses it probably has little influence either way.

In acne, sycosis (non-parasitic), and various other chronic affections of the skin, the custom is to give arsenic, but Mr. Hutchinson leaves the impression that he thinks it has little efficacy in such diseases.

He does not think that it produces its effects in skin diseases by its tonic properties, as these all depend on the smallness of

the dose. When it is pushed it nearly always produces distaste for it, languor, and feeling of ill-health. In elderly persons he does not advise it if it can possibly be avoided, especially if there are symptoms of nerve degeneration present. Paralysis agitans, in his experience, is made worse by it. He thinks it is also an undoubted cause of peripheral neuritis in some cases where it is pushed. In some cases he has known it to induce herpes zoster when given for the cure of other diseases. It not infrequently causes local numbness, especially in the lower extremities, with numbness and tingling in the soles of the feet. In small doses its continuous use is not probably injurious, further than its tendency to cause zoster, even when taken for years. In a general way its effects are not usually beneficial, and when at all pushed patients are glad to quit it, and feel languid and depressed under its use, and sometimes show emaciation. It is not without danger, and numbness and tingling in the palms and soles, decided loss of flesh, irritation of the conjunctiva, diarrhoea, irritability of the bladder, etc., are indications that its use should be discontinued. One remarkable fact regarding the use of arsenic is its preventive influence over certain affections, recurrent zoster not reappearing while it is used, as well as that form which appears on the genitals, lips or mouth, and which recurs frequently. In conclusion, he sums up its influence as follows: It rapidly cures psoriasis, pemphigus and their allies, prevents the return of recurrent herpes and other relapsing maladies, sometimes causes zoster and several types of peripheral neuritis, has an affinity for nerve tissue, and some peculiar influence over nerve function.—*Lancet-Clinic*.

Post-Mortem Cæsarian Section.—Dr. T. A. O'Callaghan (*N.Y. Medical Record*, May 2, 1891) reports the case of a multipara, aged 36, who was sinking from cancer of the stomach during the twenty-eighth week of pregnancy. She had been kept partially under the influence of morphine for many weeks. In her moments of consciousness she said that she felt the movements of the child, and, being a Catholic, desired earnestly that it should receive the rite of baptism. Dr.

O'Callaghan reached the patient about twenty minutes before her death. Her husband and a priest told him that they had promised the patient, who was now unconscious, that he (the doctor) would make an effort to save the child. Dr. O'Callaghan could not hear the foetal heart. The patient died, and a few seconds later an incision was made from the umbilicus to the pubes. The uterus was thus at once exposed. It was in a state of contraction, and on careful opening with a scalpel the waters gushed out. Guided by his fingers, he laid the uterus open as far as the abdominal parietes. A small living foetus was thus extracted without difficulty; it cried feebly. The cord was tied and divided. The internal os was tightly closed; the placenta attached to the left side. The uterus continued its contractions as strongly as after a normal birth, and was soon reduced to the size of the double fist, pressing out every drop of water and a considerable quantity of clotted blood. The pylorus was the seat of cancer, which was diffused over the mesentery and intestines. The child—a weak, puny little thing, of not fully seven months uterine age—was baptized and lived three hours.—*Cincinnati Lancet-Clinic.*

Ideals of Medical Education.—Let us consider briefly an ideal of a medical education of a higher type. In addition to the incipient family practitioner of ordinary qualifications—the beginners in the profession—there is need of, and employment for, highly skilled, thoroughly trained physicians and surgeons as family physicians, as consultants, as specialists, and as investigators and teachers. There are two ways in which these needed men may be educated and developed. The first is by their commencing with the ordinary course of instruction for general practice, and then going on, after graduation and commencing practice, to study and perfect themselves in details—according to individual tastes and opportunities; and this has been the course pursued by a large number of our most distinguished American consultants and specialists. The other is to lay a broad and sound foundation of preliminary education before giving any attention to olinical study or practice. This means

an education at least equivalent to that required of candidates for the degree of Bachelor of Arts from our leading universities, including Latin, French and German, and mathematics to include trigonometry and the elements of analytics. It should also include one year's work in a physical laboratory, two years' work in chemistry, two years' work in biology, at least one year's work in practical anatomy, and one year's course in *materia medica*. In other words, it requires that the youth of sixteen, having obtained a good high-school education, shall go on to spend at least five years in additional study before he commences to see anything of practice. He should then spend at least three years more in special medical and clinical studies, during one year of which he should, if possible, reside in a hospital. If, then, his purpose is to become a specialist, an original investigator and a teacher, it is desirable that he should spend two years more in clinics and laboratories devoted to his special subject—and at least half of this time should, at present, be spent abroad.

These are the broad outlines of what I suppose most physicians of the present day would consider a desirable scheme of medical education for an intelligent boy with a fair amount of liking for study, good health, and sufficient means to enable him to go through with it without making undue demands upon his parents or guardians.

You will observe that there are several qualifying clauses in that last sentence. The aphorism that it does not pay to give a five-thousand dollar education to a five-dollar boy, must be constantly borne in mind in considering these questions. On the other hand, it is also to be noted that in the preparation of educational schemes, it is not necessary to provide for the demands of youths of extraordinary ability and industry—for men of genius. Beds suitable for giants are not required as part of the stock of an ordinary furniture store, especially if it require giants to make them. Some cases of disease will recover without treatment, though the cure may be hastened by proper management; some will die under any treatment; the result of some depends on the treatment. It is much the same in education. Some will acquire knowledge and power without special

training ; others will never acquire these things under any training ; but the career of many depends, to a large extent, on the training which they receive. The recent announcement of a compulsory four years' course of medical studies by Harvard and the University of Pennsylvania, soon to be followed by a similar announcement from Columbia, looks toward the ideal just indicated.—*Ext. from Dr. Billings' Yale Address, in Boston Med. and Surg. Journal.*

Errors to be Avoided in Cæsarian Section.—Dr. Howard Kelly (*Amer. Jour. of Obstetrics*) says : Do not use antiseptic solutions for instruments or hands after the operation has begun ; above all, do not use them in the abdominal cavity. Use pure water throughout, preferably distilled, which has been boiled a half-hour. Do not turn the uterus out of the abdomen before delivering the child, unless its contents are doubtfully septic ; it does no good, adding an unnecessary step and calling for a larger abdominal incision. Do not cut the placental tissue, thus bleeding the child, in placenta prævia Cæsariana. Do not waste time picking off small shreds of decidua from the inner surface of the uterus. Do not do a conservative Cæsarian operation when the uterus is already septic ; if the uterus is infected, do a supra-vaginal amputation after Porro's method. Do not use catgut of any kind as a uterine suture ; it has proved dangerous and uncertain. Never use a continuous suture in the uterus. Do not attempt to drain the abdominal cavity ; it cannot be done effectually. Do not douche out the vagina, as a matter of routine, after the operation ; it must be carefully disinfected beforehand ; afterwards an aseptic genital tract will need no active antiseptic regimen. Lastly, let all the preparations be so fully and carefully made beforehand that no time shall be lost, and each successive step shall follow its predecessor with the utmost rapidity consistent with accuracy, and the whole be completed with despatch.

I have thus endeavored to insist that a certain simple, rational *technique*, now shown by abundant experience to contain all the factors of success, shall be universally adopted. I must insist

that my countrymen, in particular, shall cease making useless experiments, unwittingly repeating over and over again the errors of their predecessors. No man has any longer a right, unless upon the basis of a large experience, to materially modify any details of this operation, if he be unwilling to bear the imputation of unwarrantable trifling with the most sacred trusts committed to his care.—*American Lancet*.

A Warning About the Forceps.—In a recent clinical lecture Dr. Goodell said to his class: "Let me warn you, as young men, to resist the temptation of keeping the forceps on too long, in your undue haste or excitement to deliver the woman. Make it your rule to take them off when the head is well down and the perinæum begins to bulge, unless the pains have stopped or the woman is in puerperal convulsions, or she is in any condition demanding prompt delivery. By observing this precept you will at least avoid the accusation that 'the doctor tore her with his instruments'; for indeed it is too true that the physician, in his haste to deliver, does often tear his patient either by a too hasty delivery or by pulling parallel with the long axis of the woman's body, instead of following the curve of Carus."—*Practice*.

The Results of the Removal of the Uterine Appendages.—Dr. Keppler, at the Tenth International Medical Congress, gave the after history of eighteen cases, which he had followed up and carefully studied. In each of the patients the operation had been done for gross diseases of the sexual organs, such as pyosalpinx, salpingitis, oöphoritis, uterine myoma—and never for psychosis or neurosis. Both tubes and ovaries were always removed. The therapeutic effects were good, the patients in all cases being relieved of their symptoms. The anatomico-physiological results were likewise uniformly good. In no case did a typical menstrual hemorrhage occur after the operation. The countenances of the women remarkably changed, and the women became quieter and more beautiful (!). In all cases the conjugate diameter of the pelvis

became shorter, this effect being more pronounced in the younger patients; the shortening amounted to two to three centimetres. The vagina became shorter and narrower, the mucosa thinner, smoother, and paler. The cervix became shorter, the uterus smaller, the introitus vaginæ narrower. The breasts became smaller and the nipples paler. The tendency to become stouter which has been described by other operators was not observed in any case. The sexual instinct was always preserved. Three patients, virginal before operation, married later and lived in happy wedlock. The passions persisted, particularly when the operation was performed early on young persons. In myoma the results of the operation were good both as regards the hæmorrhage and the shrinking of the tumor.—*Birmingham Medical Review*.

The Virile Reflex.—Dr. C. H. Hughes refers to a new diagnostic reflex present in all healthy men whom he has examined. The individual is placed in a supine horizontal position, the skin of the penis is then made tense by grasping the prepuce near the frænum with the left thumb and index finger, and drawing it firmly toward the umbilicus, the remaining digits of that hand being placed low down on the dorsum of the organ for perceptive purposes. If now the side or back of the penis near the perineal extremity is quickly percussed, a quick and very perceptible retraction of the bulbo-cavernous portion is noted. The "penis-percussion reflex" is feeble or absent in children under the age of puberty; it becomes impaired or abolished after prolonged excessive venery. It is not impaired in masturbation when the habit has not destroyed the sexual power, but excessive onanism long continued and accompanied by neurasthenia diminishes the reflex. In old men who have lost virility the sign is absent.—*Alienist and Neurologist*.

Nephrectomy for Ruptured Kidney.—Dr. Obalinski reports (*Sam. klin. Fortrarje*, No. 16, 1891) a case in which he removed a ruptured kidney with good results. The patient, aged 32, fell from his horse on September 21st.

The injury was followed by shock great tenderness, and bruising over the right lumbar region, and there was intermittent hæmaturia. On the ninth day there appeared in the right hypochondrium a circumscribed and fluctuating tumor as large as a child's head. As the tumor increased in size there was general disturbance, but no symptoms of suppuration. On October 23rd the injured kidney was exposed by the lumbar extraperitoneal operation. The organ was found to be completely broken across and surrounded by a sac containing a quantity of pure urine, clear and healthy, with a few blood-clots. The ruptured organ was removed, the pedicle and vessels ligatured, and the wound packed with iodoform gauze. The patient made a rapid recovery, being completely cured on the twentieth day. Dr. Obalinski has found reported six other cases of the operation ; three successful and three fatal.—*Occidental Med. Times.*

The Extraction of Broken Needles.—

All who have had much to do with this minor operation know how frequently a satisfactory result fails to be obtained unless the indications for a safe operative procedure are strictly observed. It is most unpleasant, after cutting and probing with the finger and forceps, to be obliged to tell a patient who has endured some pain and much discomfort that further attempts are useless, and that the fragment is still there ; and perhaps suggest as the best consolation that the needle has a more free opening by which to work its way out. Dr. Steele, in the *Lancet* for May 9, 1891, states that for many years past he has declined to cut, in an attempt for removal of a needle, unless he could make out the situation of a point, and that the other end had a firm bearing to rest upon ; giving the assurance that patience and watching are the proper treatment for the time being. Lately, he writes, he has adopted a very simple, painless and reliable plan. The first case in which he employed it was in that of a young woman who had broken a needle into her left heel, and for three weeks had gone about using her right foot naturally, but resting only on the toes of her left foot. The slightest touch gave her great pain. The point of entrance

was visible in the middle line of the tuberosities of the os calcis ; the end of the fragment could be recognized through the skin, but the slightest pressure made it recede. Dr. Steele declined to operate, but directed that two thick corn-plasters, one on the other, should be applied, with the puncture occupying the central hole, and that she should walk freely and bear well upon the heel. This she did with perfect ease, and after ten days the needle presented and was withdrawn. It was the eye-end, and almost an inch long.

Soon after this Dr. Steele writes that he saw a little girl, aged 3 years, who had also trodden upon a needle which broke and entered between the ends of the metatarsal and tarsal bones. A surgeon saw her promptly, cut down, and tried for some time to extract the fragment, but failed. She often felt no inconvenience, but at intervals limped suddenly and complained of pain. She was persuaded to wear a corn-plaster, and after three weeks the portion of the needle, which had been in more than three months, after producing a little superficial irritation, showed itself, and her nurse drew it out. So, also, the wrist and ball of the thumb are not unfrequently punctured, and if the fragment enters obliquely, or lies close to arteries or nerves, and cannot be forced into prominence, attempts at extraction are, to say the least, undesirable ; whereas, by adopting this simple method, after the manner of removing a thorn with the pipe of a key, and producing pressure with an elastic wristlet or slight steel spring, like a small truss, the fragment will work out and not give pain from any knocks while under the skin. In that awkward position, the soft parts by the sides of the ligamentum patellæ, this plan may be used. It recommends itself to every one's common sense, and has the great advantage of not leaving a cicatrix.—*Therapeutic Gazette*.

Treatment of Chronic Constipation.—

Dr. T. Flatau recommends for this purpose the direct application to the rectal mucosa of about three grammes of powdered boric acid. In cases where the mucosa cannot be reached, insufflation of the same quantity of powder is employed. In from half an



hour to three hours after the application peristalsis occurs, attended with copious faecal evacuations. The evacuations may occur two or three times during the day, and are never painful. This method never fails in properly selected cases. Experiments made with other remedies yielded negative results. There is no fear of intoxication, as indicated by a large number of cases treated. In three cases failing to yield to other remedies, boric acid accomplished the desired result.—*Berlin. klin. Wochen.*, March 2, 1891; *Occid. Med. Times*.

Naphthalin in Typhoid Fever.—Dr. L. Wolff reports (*Philadelphia Medical News*, May 23rd, 1891) the results obtained by the use of naphthalin in 100 consecutive cases of typhoid fever under his care in the German Hospital of Philadelphia during an epidemic of that disease in 1889. The cases were all treated in the following way: On admission, calomel with soda was administered in grain doses every three hours for six hours, or until its laxative effect forbade its further use. This was immediately followed by gelatine capsules containing five grains of purified and finely-powdered naphthalin every four hours, alternated with only a few drops of dilute hydrochloric acid. No other medication was permitted, excepting chemical antipyretics and cold sponging for hyperpyrexia. The diet consisted of milk, alternating with meat broths containing raw eggs; stimulants were administered as required. Of the 100 patients, 56 were males and 44 females; their average age was 24.7 years, and the mean duration of the febrile period was 24.4 days. Sixteen cases ran an abortive course, deferrescing before the end of the second week. Only three of the patients had intestinal hemorrhage; in two of these the complication occurred shortly after the naphthalin treatment was begun. The total mortality was 10 per cent., but two cases were brought in comatose and never rallied, dying within three days after admission; four others died with complications such as glosso-pharyngeal paralysis (1), acute pulmonary phthisis (1), facial erysipelas (1), and heart failure owing to valvular lesion (1); while of the remaining four fatal cases, two died

within four and five days respectively after admission. Dr. Wolff argues from these facts that the true mortality of the cases under the naphthalin treatment was 2 per cent. He does not think that the total death-rate from typhoid fever in general hospitals will ever be reduced much below 10 per cent., "as severe cases admitted late in the disease, or with complications which no longer admit of treatment at their homes, will under any treatment prove more or less fatal." The statistics of the German Hospital of Philadelphia, for the five years previous to the epidemic during which Dr. Wolff made the observations above referred to, show that the death-rate from typhoid fever was 23.4 per cent. in 1884, 11.4 per cent. in 1886, 20.4 per cent. in 1886, 17.4 per cent. in 1887, and 13.2 per cent. in 1888. His death-rate (10 per cent.) compares very favourably with these; and not less so with the death-rate in different methods of treatment given by Liebermeister of Basle, as follows: On the indifferent plan, 27.3 per cent.; incomplete antipyretic treatment, 16.2 per cent.; complete antipyretic treatment, 10.2 per cent.; no specific treatment, 28.7 per cent.; calomel treatment, 12.4 per cent.; iodine treatment, 12.9 per cent. Dr. Wolff found that, though naphthalin had no direct influence on the febrile temperature, its continued administration speedily produced lysis, and thereupon the temperature became normal. If, however, the medication was discontinued directly on deferescence, it rose again. In nine of the earlier cases relapses occurred, in some of them two and even three times. The naphthalin was then continued for some time after complete deferescence, and the frequency of relapses was greatly diminished. In only one case had the treatment to be interrupted on account of nausea and vomiting, but even in that case it was subsequently resumed without further trouble. The drug controlled diarrhoea so completely that, after its continued use, laxatives were sometimes required. The appetite was not affected by it, nor was any irritation of the uropoietic apparatus observed under its use. The heart was not injuriously depressed or otherwise affected. Patients showed no repugnance to it unless when given in suspension instead of in gelatine capsules. Dr. Wolff has no doubt

that at the onset of typhoid fever naphthalin may inhibit the development of the pathogenic microbes so far that the disease will be aborted ; and further, that at any period of the disease, over-production of the chemical toxius may be prevented, and the fever made to run a mild course.—(*Brit. Med. Jour. Supplement*, June 13, 1891.)

Case of Internal or Pelvic Spinal-Bifida.—In a paper read before the Medical Association of Georgia, April, 1891, Dr. Doughty says : “ I present this case merely to record it in the transactions of this Association as one of phenomenal interest. Its full history will doubtless be given to the profession by Prof. T. Gaillard Thomas, the distinguished gynecologist of New York, to whom it was referred for a differential diagnosis from other forms of pelvic tumour. His exact diagnosis of ‘ Pelvic Spina-Bifida ’ I have since confirmed by a careful examination. As far as my investigations go, it is the fourth in a series of published cases—one by Dr. Emmet in 1870, and two others by Thomas in 1885. This is sufficient to indicate the rarity of the lesion, and will doubtless prove specially interesting to the gynecologists of this Association, who, like myself, may at any moment be called upon, unexpectedly, to differentiate it from other tumours. For their instruction I will quote the concluding sentences of a summary of these cases (two of which terminated fatally under operative interference, performed without a clear comprehension of their exact nature), published by Thomas in *Gilliard’s Medical Journal*, March, 1885 :

“ ‘ Although our knowledge concerning this form of pelvic tumour is at present so meagre, we may, I think, even now deduce the following lessons from the two fatal cases recorded in this essay, which will prove useful for the prevention of a very possible increase in the number of similar unfortunate ones.

“ ‘ 1. When cyst is found in the pelvis, behind the rectum, filling the hollow of the sacrum, apparently attached to that bone, let the diagnostician carefully exclude the possibility of its being spina-bifida before interfering with it.’

“ ‘ 2. If it be decided to interfere with such a tumour, let a

small portion of fluid be first drawn by a hypodermic needle, and if this be found to be a limpid, non-albuminous fluid, let the probabilities of the sac being connected with the meninges of the cord receive due consideration, and guard against further interference.'"—*Southern Medical Record*.

Therapeutic Effects of Transfusion of Goat's Blood.—At a meeting of the Paris Société de Thérapeutique on May 13th (*Semaine Médicale*, May 16, '91) Dr. Bernheim read a paper in his own name and that of MM. Gardy and Lepelletier on the therapeutic effects of the transfusion of goat's blood. From a large number of experiments on animals, and from some observations made on human patients suffering from phthisis and chlorosis, M. Bernheim said he thought himself justified in drawing the following conclusions: The transfusion of goat's blood is in no way dangerous if it is performed with the necessary antiseptic precautions; several tuberculous subjects were so far improved that they might be looked upon as cured; the method may possibly be applicable in other diseases, such as chlorosis, obstinate hemorrhage, etc. —(*Brit. Med. Journal Supplement*, June 13, 1891.)

Operative Treatment of Perityphlitis.—E. Sonnenburg discriminates between circumscribed suppuration and diffuse sero-fibrinous exudations in these cases, and only advocates operative treatment in the former group, in which he would interfere by operation, whether threatening symptoms exist or not. In cases where the pus cavity is deep-seated or obscure, Sonnenburg recommends operation in two stages. On the second or third day of illness he incises freely down to the peritoneum at the part where tenderness and resistance most distinctly lead one to suspect the presence of the pus; then, after an interval, varying in his cases from one day to five, he explores with a hollow needle, and daily repeats the manoeuvre till the abscess cavity is found. He believes that the primary incision not only enables one more readily to determine where the pus lies, but also in a measure brings about "pointing" from

diminution of the pressure of the wall at the part. The punctures, so far from doing injury, provoke, he thinks, adhesions which will shut off the peritoneal cavity. Sonnenburg advises against removal of the appendix vermiformis if at all-adherent, though regarding the step as theoretically the correct treatment. —*Centralblatt f. Chirurgie*, No. 19, 1891.

The Neuroses of Development.—Dr. Clouston, in his recent lectures on the “Neuroses of Development,” is inclined to attach importance to the shape of the palate as an index of brain development. He classifies palates into three groups according to their shape, of which the first, the typical or “horse-shoe” arch, and the second, the neurotic or “gothic” arch, occur in about equal proportions in the healthy; the third variety, or “deformed” palate, has for its most common form a V or saddle-shape, produced by the presence of a bony shoulder alongside of the teeth on each side, but also includes palates in which there are marked central bulgings, depressions, or cup-shaped hollows. In 604 sane persons, some variety of the “deformed” palate was found in only 19 per cent.; while in 161 persons, either idiots or suffering from some congenital mental defect, it was present in 61 per cent. and of cases of acquired insanity, in the insanity of adolescence, which shows the most marked heredity, in 55 per cent. The important relation of the palatal arch to the base of the skull in man is shown by the fact that a perpendicular let fall through the most anterior part of the brain passes through the middle of the palate, whereas in the monkey it only touches its posterior margin. On account of the close relationship of the upper maxilla to the base of the skull, and necessary dependence of the skull-case and palate on the development of the brain, the shape of the palate may afford an index to the latter. If brain-growth dominates skull-growth in all parts, it will determine the development of the palate; and the size and shape of the brain being governed by hereditary influences, a bad nervous heredity will declare itself both in a badly-formed brain and in an abnormal palatal arch. The deformed palate is not an expression of the

reversion to a lower type of skull ; for in savage races the shape of the skull, if not altered from disease or degenerative changes, does not modify the dome of the palate nor convert it into the V-shape. The shape of the palate makes no difference to the sense of smell nor to the power of mastication, but alters very materially the facial expression and slightly affects the speech. He considers that the vaulted palate and altered dental arch are to be taken with other abnormal changes in the head, and especially in the facial expression, as morphological indications of defective development ; and that the change in the shape of the palate may possibly be explained by the supposition that the frontal lobes, the part of the brain which lies above the palate, become arrested in development through bad heredity, and the base of the skull in front is therefore narrowed, while at the same time the jaw must remain large enough to hold the normal number of teeth.—*Bristol Journal*.

Melancholia as a Sequela of La Grippe.

—No more interesting report of the influence of the influenza epidemic of 1889-90 has fallen under observation than that embodied in the last annual report of Dr. Clouston, superintendent of the Royal Edinburgh Asylum. An examination into the character of cases admitted during that period demonstrated two marked facts. First, that the general health of the patients admitted was much lower than usual, fifty having been admitted "in bad health and very exhausted condition"—i.e., in imminent risk of death—as compared with an average of thirty-eight during the fifteen previous years. The other prominent fact concerning the admissions during the year was this: In the two chief divisions made of the mental conditions of patients, mania and melancholia, the number of cases of melancholia more than equalled those of mania, there being 140 of the former against 134 of the latter. This is contrary to the usual rule, as mania commonly predominates. During the five years previous, 847 cases of mania were admitted to 617 of melancholia, or 37 per cent. more cases of mania. In no previous year in the history of the institution had the number of cases of melancholia ex-

ceeded those of mania. Not that melancholia was a less common form of trouble than mania, if all who suffer from it are taken into account. In his experience the contrary was true; but much melancholia was never sent to an institution, and did not need to be sent. From his observation, he had concluded that the year 1890 was, with them in Edinburgh at least, depressing in its conditions to the nervous tone and lowering generally to human vitality. Whether it was the influenza in the early part of the year that perceptibly lowered human vitality as a whole, or whether its presence merely showed that European humanity was in a lowered state of vitality, thus being a fit nidus for the influenza germs to propagate in, or whether it was the sunless, summerless general character of the year, he could not tell.

Dr. Clouston distinctly connects the increased number of melancholiacs with the influenza in some way. His experience, with that of medical *confrères*, he states, went to show that a considerable number of influenza patients felt great mental depression, both during and after attack had passed off, often for months. If a few with a tendency to insanity, of the thousands who were simply depressed in mind, became insane, the increased number of melancholiacs would be accounted for. In his opinion the subsequent lowered nervous tone left as an evil residuum long after the disease had been recovered from had not had the attention paid to it that it deserved. He believes that the epidemic of 1889-90 left the European world's nerves and spirits in a far worse state than it found them, and that they had scarcely yet recovered normal tone. The influenza poison seemed to burn up the nervous energy, and leave the brain unable in some case to recuperate.—*Journal of Nervous and Mental Disease.*

Resection of Lung for Early Tubercular Disease.—M. Tuffier, on May 5th, 1891, performed the operation on a male patient aged 25. By an incision in the second intercostal space the parietal pleura was reached and separated towards its apex from the ribs. On opening the pleura the apex of the lung in which the nodule of disease could

be felt was drawn out through the wound, and a silk ligature passed round it so as wholly to include the nodule in the portion which was severed. The stump was stitched to the deep surface of the second rib, and the wound closed layer by layer, the patient making a good recovery. M. Tuffier only claims as the result of this interference the removal of a localized lesion, not a cure of the tubercular disease.—*Semaine Médicale*.

Inflammation of the Vermiform Appendix.—The classification of appendicitis that seems to satisfy most requirements, clinical and pathological, is that of With of Copenhagen, referred to by Wynter. Modifying With's classification a little, we believe the leading varieties may conveniently be known as (1) Plastic, (2) Purulent, and (3) Perforative.

1. Plastic appendicitis is characterised by the development of adhesions between the appendix and neighbouring organs, and would correspond to the variety clinically known as Recurrent Appendicitis. Such adhesions may be either a few fine threads joining the appendix, usually at some point near its tip, to some abdominal organ; or they may be of the most extensive character, being general matting together of bowel with dense fibrous tissue, in the centre of which is the appendix. In one case at operation I have found quite acute symptoms produced by adhesion of the tip of the vermiform appendix to the left ovary; in another, the appendix was with much difficulty found embedded in a mass of surrounding adhesions. The symptoms here are chronic or recurrent, with complete or partial remissions.

2. Purulent appendicitis is characterised by the early formation of an abscess or abscesses around a perforation in the appendix. Such an abscess is protected or localised by adhesions, which prevent the diffusion of its contents through the general cavity. Secondary and outlying abscesses are formed around the first; and if the patient survives and operation is not performed, we may find around the small appendix an enormous collection of pus contained in several pouches, the walls of which are formed by adherent bowel or bare parietes. A rare form, in which the perforation takes place between the layers of the

appendicular mesentery, may burrow under the peritoneum of the pelvis and right loin. This variety, though it may follow the first, is usually subacute from the beginning, and has but little remission till the disease is at its worst, in from a fortnight to three weeks.

3. Perforative appendicitis is intended to refer to the variety in which there is a sudden discharge of faecal matter into the abdomen, without the formation of protective adhesions. There is collapse, more or less profound, from the beginning of the onset, which is usually without warning; and, in spite of operation, unless when performed very early, the result is almost uniformly fatal.

Recognizing these as natural varieties, we must further note that they occasionally run into each other. Thus, a plastic appendicitis may become purulent; and a purulent and protected appendicitis may suddenly become diffuse. But it is certainly the case that they most frequently remain distinct during the greater part of their progress.

This is not the place in which to discuss symptomatology, but I may refer to a few signs which seem to be noteworthy.

McBurney's "point" has been made a good deal of, and has been alternately overpraised and discredited. This symptom is elicited by pressure with the point of the finger over a small area about midway between the umbilicus and the right anterior spine of the ilium. This area overlies the base of the appendix. I believe it is a sign of real value in all cases of plastic appendicitis. In the suppurative variety there is usually palpable thickening, and an area of tenderness wider than can be covered by the finger; in the perforative variety the symptom is of little value.—*Ext. of Paper by J. Greig Smith in Bristol Journal.*

Upon Catgut Infection.—(By C. Brunner of Zurich).—Brunner discusses the manner of manufacture of catgut and the methods of preparation and preservation for surgical use. He points to the fact that Reverdin first taught the method of sterilization by dry heat and obtained an excellent result. Published instances of catgut infection by Zocher, Zweifel, Volk-

mann and others are referred to, these being entirely due to catgut prepared by carbolic acid oil. In answer to the question addressed to many surgical and gynaecological clinics regarding experiences with catgut, invariably favourable replies, particularly with reference to sublimate catgut, were returned. During the past four years, in the Zurich clinic, a careful search has failed to reveal any complication that could be referred to this material. This included herniotomies, laparotomies and extirpations of the thyroid body. Similar experiences were gleaned from the work of Sanger, Crede and Caruso in the use of catgut as buried uterine sutures in Cæsarian section.

As to the absorbability of different methods of preparation of catgut, the author agrees with Bruns that in case of suppuration more rapid disintegration of this material occurs, while in other cases, or those pursuing an aseptic course, an essential difference is to be observed. All methods of preparation lessen the resistance of the catgut in the tissues as compared with raw gut; this is less observed in the chromic acid methods of treatment, as well as that of Reverdin.

The second portion of Brunner's article is taken up with an exceedingly valuable contribution to the bacteriological study of catgut in its surgical relations. In examining catgut from different sources, and kept for different lengths of time, it was shown that the sublimative disinfection as carried on in the factories was such as to render the material absolutely and permanently free from germs; Reverdin's catgut likewise proved itself to be sterile without exception. Catgut prepared in carbolic acid, chromic acid and in juniper oil was found, not infrequently, to contain micro-organisms, although, indeed, these were not of a pathogenic character.

Brunner directed his attention particularly to methods of sterilization which should guard against anthrax infection. Catgut known to be thus infected was employed. As a result of this he holds the following method of preparation to be the best: Raw catgut is thoroughly scrubbed with a brush and potash soap, and then directly, after a half hour's exposure to ether, where it should remain for twelve hours in a 1-1000 watery

solution of sublimate. It is then prepared in sublimate 1 part, alcohol 900 parts, and glycerine 100 parts.

Experience does not seem to have supported the observations of Kocher regarding the applicability of silk as material for ligature in place of catgut. Those who have followed the warning of the latter surgeon and have substituted the former for the last named material have very soon discovered this fallacy and have been obliged to return to catgut. The same may be said of those who have found refuge in linen thread as a substitute for catgut. Although such substitution may at first sight appear to be a simplification of the antiseptic apparatus, yet it really is a backward step.—*Beitrage zur klin. Chir.*, Bd. vi.

Milk Diet in Typhoid Fever.—Prof. Da Costa thinks that the exclusive use of a "milk diet" in typhoid fever is overdone. The stools should be carefully watched to see that the milk does not disagree. His plan is to use three pints of milk and one pint of broth in twenty-four hours, given alternately, with a mid-day meal of arrow-root, or other thickened food. It should be given every two hours during the day and every three hours at night. In very light cases it may be given every four hours at night, but under no circumstances should nourishment be used less frequently.—*Coll. and Clin. Record*.

The Ætiology of Cheyne-Stokes Respiration.—At a meeting of the section in Medicine of the Royal Academy of Medicine in Ireland, held on May 22nd, '91, Dr. M. A. Boyd read a paper in which he reviewed all the physiological explanations of this phenomenon offered by writers on the subject since Stokes' time to the present day. He particularly pointed out the very rational explanations offered by Traube and Fiehné, who regarded the respiratory derangement from the altered nutrition of the respiratory-centre point of view; and of those of the Dublin school, including Hayden and Little, who regarded it primarily from the cardiac point of view, and complimented the Dublin School as offering by far the best evidence, both clinically and pathologically, in explanation of the

phenomenon. Dr. Boyd, having alluded to the marked rhythmical irregularities between the heart pulse and respirations in this affection, drew attention to a point which heretofore in the literature of the subject, so far as he was aware, had not been alluded to—namely, that the latter portion of the forced respiratory phase of the Cheyne-Stokes cycle was chiefly an expiratory one, in contrast to the first portion of it, which was an inspiratory one; and that this forced expiration had a most important bearing on the weak ventricles of the heart, by helping them to squeeze the blood, on the one side, into the pulmonary artery, and on the other, into the dilated and inelastic aorta. In proof of this, he exhibited sphygmographic tracings showing that it was only during this expiratory portion of the respiration that arterial tension was raised in the arteries, and that this tension continued through the apnoeal period following, during which time the respiratory centre was fully supplied with arterial blood and the weak and degenerated left ventricle resting. He regarded the apnoeal period, during which time respiration was suspended, as only an effort on the part of the higher automatic centres to rest a heart the ventricle of which was too feeble to charge an arterial system the aorta of which might be dilated and inelastic, or the vaso-motor control of which might be defective, and whose own blood supply might be rendered insufficient in consequence, and its nutrition enfeebled. After the intrinsic muscle of the heart had been fed by this increased arterial tension of the expiratory and apnoeal periods, forced inspirations began again, and the heart contractions were stronger, but they failed to fill the dilated aorta until the forced expirations, by making pressure on the ventricles, came to their aid again.

The most typical and pronounced forms of Cheyne-Stokes respiration were to be met with in alterations of the heart and aorta produced by degeneration and disease. The forms of it met with in cerebral disease, or injury, and in apoplexy and uræmic coma, without any primary engagement of the heart, he regarded as due to direct interference with the respiratory centre in the medulla, either by pressure or by poisoned blood, and the phases of it were never so well marked as in those cases

of the affection depending primarily on alterations in the heart. Owing to its dual origin in this way came the differences of opinion as regarded its pathology. As regarded its treatment, Dr. Boyd found so much improvement following the inhalation of oxygen in all the cases where disease or degeneration of the heart produced it, that he urged a trial of this remedy in all such cases, and ventured to suggest, from his experience of the remedy, that it should be tried not alone in this affection but in all cases where degeneration of the heart existed from any other cause.—*New York Medical Journal*.

Local Treatment of the Throat in Diphtheria.—The cruel and useless practice of swabbing out the throat with caustic applications in diphtheria of the fauces has, I think, died out; but this method of applying astringents, such as perchloride of iron, or antiseptics and solvents, still survives. The diphtheria wards in the Hospital for Sick Children afford exceptional opportunities for observing the effects of various methods of local treatment; and, from long observation, I have no hesitation in condemning as injurious the system of brushing out. And this for several reasons. In the first place, on account of the distress it causes to the patient. In the case of a young child it involves a severe struggle; sometimes the help of two or three persons is required to overcome the fierce resistance, and to open the mouth and reach the fauces. It causes terror, excitement, heart strain, and physical exhaustion—conditions most inimical in a disease tending to death by asthenia—and the distressing process has to be repeated frequently if it is to be effectual. Moreover, apart from this matter of the wear and tear involved, the rough treatment of the fauces probably does harm by causing abrasions of the surface, and thus favouring absorption of the local poison. We know how readily fresh raw surfaces of all kinds take up poisons which come in contact with them. Witness, for example, the communication of scarlet fever in surgical operations, the absorption of morphine from a blistered surface. If the diphtherial poison is rendered more available for circulation by the application of

solvents, the infective absorption is liable to be still greater. The most rapidly fatal case of diphtheria from profound general systemic poisoning I have ever seen was one in which the throat was cleared of membrane by brushing out with papain.

I am sure that not only are the patients saved great distress, and doctors and nurses much trouble and anxiety, by the abandonment of the brushing-out process, but the results generally have been more satisfactory. Insufflation with iodoform or sulphur, or spraying with boric acid or corrosive sublimate solutions, are far more easy of application, and more effectual in antiseptic action.

There are other errors in treatment of which I should like to say something, such as oppressive poulticing of the chest in pneumonia, obstructive to respiratory movement, and tending to increase the body heat; the administration of emetics in diphtheritic croup, which is utterly ineffectual except to depress and exhaust the patient; their frequent repetition in bronchitis and whooping cough when there is no extreme mucous obstruction of the air passages to justify it; the too free purging of rickety children suffering from laryngismus and convulsions, under the belief that irritant matter in the alimentary canal is the sole cause of evil. But time forbids me to do more than allude to these things. I will merely add this word of advice. In treatment, consider as carefully what not to do as what to do. To avoid doing harm is as important as to effect positive good.—
Dr. W. B. Cheadle in the Practitioner.

Nocturnal Enuresis.—Dr. van Tienhoven suggests (says the *N.Y. Medical Record*), in the *Correspondenzblatt f. Schweizer Aerzte*, that though the bladder acts normally through the day, it misbehaves at night. He believes that the vesical sphincter is not strong enough to keep back the urine which collects in the bladder in the early hours of the night and permits it to find its way into the prostatic portion of the urethra. The detrusor vesicæ is thus reflexly stimulated and the bladder emptied. In order to prevent the urine from running into the urethra in this way the children were made to sleep with the

pelvis elevated. In this position the bladder is capable of holding a certain amount of urine before the liquid reaches the level of the urethral opening. The foot of the bed must be elevated so that the bed forms an angle of forty-five degrees with the horizontal. The children should be sent to bed with empty bladders, and should not take any liquid just before retiring. They sleep well in this position and do not complain. Fourteen cases were treated by this simple method only, and all were cured in a short time.

Aristol.—Dr. Alois Pollok (*Therapeut. Monatsh.*, XII., 1890) recommends aristol as an antiseptic, and as a remedy in various skin diseases, on the ground of experiments made in numerous cases. Inasmuch as this substance is insoluble in water, he employed it chiefly as a dusting powder, or in ethereal solutions or ointments. For obvious reasons, it cannot be utilized for disinfection of the hands, instruments, and the site of operation, or as an antiseptic during the operative procedure. On the other hand, it is very serviceable for the treatment of wounds after operations, or of neglected injuries. It has the great advantage of being effective in small quantities, so that wounds need only be covered with a thin layer; if desired, it may be diluted with sugar of milk. In all the cases treated with aristol by the author, the healing process took place without reaction. Fever never occurred, and if present before operation, it disappeared regularly within the first few days after its performance. There was an entire absence of pains, granulations were developed with remarkable rapidity, and formation of epithelium took place promptly. The period of healing was remarkably short. —*Deutsche Med. Zeitung*, April 2, 1891.

Creolin in Tonsillitis.—Following up Leyden's recommendation of creolin as a disinfectant for the throat, Dr. Itzig has used it in follicular tonsillitis with marked success. Under its influence the purulent plugs in the lacunæ, as well as the swelling, tenderness and fever, disappeared within twenty-four hours, and the patient rapidly recovered. It was prescribed

at a 1 per cent. solution, diluted with equal parts or more of warm water; and was used in the form of a gargle several times daily. The disagreeable burning feeling in the throat which creolin causes disappears rapidly on washing out the mouth with pure warm water.—*Therap. Monatshefte.*

Local Anæsthesia.—Dr. A. Dobisch (*Ägyptische Mediz. Central-Zeit.*) employs the following proceeding for inducing local anæsthesia:

Chlorof.	- - - - -	10.00
Ether,	- - - - -	15.00
Menthol,	- - - - -	1.00

M. Sig.—Apply rapidly for about one minute with a Richardson spraying apparatus.

Having produced anæsthesia after this formula, Dobisch has performed (1) opening of deep-seated felon, (2) evacuation of cervical gland abscess, (3) opening of dental abscess with scraping of the maxillary bone, (4) excision of epithelioma on the nasal ala, and (5) removal of an atheroma from the face. The complete anæsthesia lasted from two to four or six minutes, and was not only superficial but deep, in operation No. 3 extending to the bone. Recovery was uninterrupted in every case.

THE

Montreal Medical Journal.

VOL. XX.

AUGUST, 1891.

No. 2.

CANADIAN MEDICAL ASSOCIATION.

As announced in our last issue, it has been decided by the committee of arrangements to hold this year's meeting of the Association on the 16th, 17th and 18th September. The new and elegant building of the Young Men's Christian Association, recently erected on the north-west corner of Dominion Square, has been secured for the occasion. In addition to the main hall, in which it is proposed to hold the general meetings, there will be three spacious section rooms, besides committee rooms, writing rooms, etc. The order of proceedings has not yet been published, but we are authorized to state that the first day will be devoted entirely to the business of the Association; on the second day there will be two sessions, and in the evening a dinner by the profession of the city; on the third day, a morning and afternoon session. Weather permitting, there will be other attractions in the shape of excursions, receptions, etc.

It is now seven years since the Association met in this city, under the able presidency of the Hon. Dr. Sullivan of Kingston. It will doubtless be remembered that many eminent men in the profession in Great Britain were present on that occasion, having been attracted here by the meeting of the British Association. As already intimated, it is expected that a few of the British and Continental delegates to the Washington meeting may be persuaded to come this way and "take in" the Canadian Medical *en route*. No definite statement can, however, be made on this point. Several American physicians will be present.

The secretary, Dr. Birkett, 123 Stanley street, will be pleased

to give any information regarding the meeting to intending visitors. Judging from the number of invitations already accepted, the meeting is likely to be a large and interesting one.

NUMBER OF PRACTITIONERS IN CANADA.

We are indebted to an old friend for straightening our figures for us.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS,—In an editorial in your July issue you give the number of practitioners in Canada as 3,500. I would correct that statement by saying that the total approaches 4,200. Arranged by provinces, the figures are about as follows :

Ontario.....	2,300
Quebec.	1,100
New Brunswick.....	170
Nova Scotia	300
Prince Edward Island.....	60
Manitoba.....	140
North-West Territories	50
British Columbia.....	60
	4,180

Yours truly,

R. W. POWELL, M.D.

199 Rideau Street,
Ottawa, July 13, 1891.

Personal.

—Dr. A. A. Browne has returned from Europe and resumed practice.

—Dr. John McBain (McGill, '74), late of Martintown, Ont., has recently settled in the west end of St. Catherine street, this city.

Obituary.

DR. R. L. MACDONNELL.

It is with infinite regret that we find ourselves called upon to record the death, on the 30th ult., of Dr. Richard L. MacDonnell of this city. In the prime of life—for he was but 38—one of the ablest physicians and most popular citizens has succumbed to the great scourge, pulmonary phthisis. Somewhat more than two years ago Dr. MacDonnell suffered from a severe pulmonary hæmorrhage: he gave up work and spent a year in Europe, chiefly in the Alps, returning in such improved health that his friends were fain to believe that the threatened complaint had been indeed arrested. He resumed his practice and his teaching, which he continued until a few weeks ago. Whilst at Murray Bay, where he had gone for rest and change, serious symptoms developed, and he was brought home in a state of great exhaustion, surviving but a short time.

Dr. Richard MacDonnell was a son of the late Dr. Robt. L. MacDonnell of this city, an eminent and accomplished physician. The son inherited much of the ability of the father, being possessed besides of a gentle, kindly, considerate disposition which made him more than commonly beloved by his patients and his pupils. Having graduated from McGill University in 1876, he studied for a year in Europe and obtained the M.R.C.S. Upon his return he was appointed one of the Demonstrators of Anatomy and subsequently assumed the position of Senior Demonstrator in charge of the department of Practical Anatomy. The onerous duties of this important post were performed with the most unfailing punctuality and thoroughness, and he helped materially in upholding the high reputation of McGill for the teaching of anatomy. He was soon appointed Assistant Physician and then Physician to the Montreal General Hospital. Upon a vacancy occurring, he became Professor of Clinical Medicine, exhibiting marked talent in the teaching of sound practical medicine to students. Possessed of a very thorough general education, imbued with the scientific principles of medicine, of strong literary

tastes, with a ready power of expression, he had all the qualities necessary for the successful teacher. His work in our medical societies and his contributions to current medical literature have been characterized by remarkable thoroughness and conscientiousness, their style being always beyond criticism. His articles upon Typhoid fever and upon Thoracic aneurism are well known and he contributed largely to the standard "Reference Handbook of Medicine." "Dick" MacDonnell, as he is lovingly called by so many, had hosts of friends throughout Canada who will join us in mourning the loss of one who was an ornament to the profession for whose best interests he always strove, and in expressing unfailing regret that such a life should have been such a short one.

—We regret to learn that Dr. Geo. A. Tye, of Chatham, Ont., died on the morning of the 23rd ult., aged 56 years. Dr. Tye was well known throughout the West as an exceptionally able practitioner, one who kept well abreast of medical progress. If we mistake not, he was at one time president of the Ontario Medical Association. We know well how prominent a part he took in the meetings of the Canadian Medical Association. The family have our heart-felt sympathy.

Medical Items.

URINE FOR INSECT STINGS.—Dr. Terry, in *Dietetic Gazette*, says that fresh urine, freely applied, is the best remedy for stings of hornets, bees, and other insects. Wet cloths with it and apply until the pain ceases. The doctor thinks that the urea contained in the urine is the chemical antidote to the poison. How would this do for snake-bite also?—*Medical World*.

FINANCIAL LOSSES OF SIR JOSEPH LISTER.—Every member of the profession will be sorry to hear that Sir Joseph Lister has, through the bankruptcy of John Taylor, a well-known London stock-broker, lost upwards of eighteen thousand pounds. It appears that Sir Joseph Lister had entrusted Mr. Taylor with the money to invest in securities, instead of doing which he applied it to his own purposes.—*Hospital Gazette*.

AN OBSTETRICIAN'S LIBERALITY.—Professor Tarnier, the celebrated French obstetrician, has given a practical expression to his grief at the diminishing natality of his race, and has promised one hundred francs to every family at Arc-sur-Fille, the village which had the honor of giving him birth, which shall have contributed an infant to the population of France during the year 1892. This is a novel way of inducing married people to fulfil their rôle in nature, but they cannot complain of not having had sufficient notice.

—At a meeting of the Board of Trustees of the University of Pennsylvania held May 21st, Dr. Pepper made an offer of \$50,000 toward an endowment fund of \$250,000, and of \$1,000 annually towards a guarantee fund of \$20,000 annually for five years, conditioned upon the establishment of an obligatory graded four-year course of medical study. This was accompanied by a communication from the Medical Faculty pledging themselves to carry out this proposal, and to enter upon the four-year course in September, 1893.

—Sir Wm. Dalby sounds a timely note of warning in reference to "Bubble" Remedies in Aural Surgery. Under this heading

he includes (1) the promiscuous use of artificial ear-drums, for the manufacture and sale of which a company was recently floated in London with a capital of £100,000; (2) the use of electricity by all sorts of incompetent persons; (3) the mutilation, by removal, of the turbinated bones of the nose for deafness, in cases where the nose is perfectly healthy and unaffected; (4) the hypodermic injection of pilocarpine in totally unsuitable cases; (5) the division of the tensor tympani muscle for deafness. This last he describes as including in its history "a flight of the imagination, a brief notoriety, and a burial in oblivion so rapid as falls to the lot of few achievements in surgery."—*Bristol Journal*.

AN EXPLOSION OF COMPRESSED CHLORATE-OF-POTASSIUM TABLETS.—In the June number of the *Therapeutic Gazette* reference is made to an article which appeared in *La Pratique médicale* for May 5th, calling attention to an accident that had happened from carrying chlorate-of-potassium tablets in the pockets. The tablets had been prescribed for a patient who was suffering from ulcerative stomatitis, and he was in the habit of carrying the medicine about with him. One day, as he sat down, a detonation was heard, and before he could remove his clothes he was seriously burned. The tablets, wrapped in a piece of paper, were carried in his pocket together with a pen-knife, and it is supposed they detonated under the influence of concussion and set fire to his garments.

—"Well, Maggie," asked a teacher of a little girl, "how is it that you are so late this morning to school?" "Please, sir," was the reply, "there wis a wee bairn came to oor hoose this mornin'." "Ah," said the teacher with a smile, "and was not your father very pleased with the new baby?" "No, sir, my father's awa' in Edinburgh and dinna ken aboot it yet; but it wis a guid thing my mither wis at hame, for gin she had been awa' I wadna hae kent what to dae wi' it."

MONTREAL MEDICAL JOURNAL

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

GEORGE ROSS, M.A., M.D.,

THOS. G. RODDICK, M.D.,

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AND

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Professor of Pharmacology and Therapeutics, McGill University.

SEPTEMBER, 1891.

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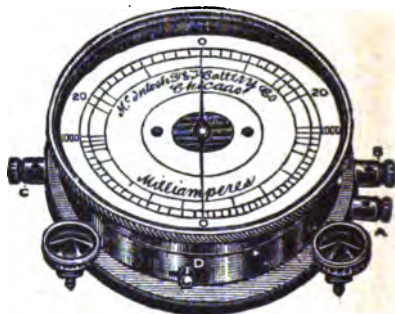
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

SEPTEMBER, 1891.

No. 3.

Original Communications.

NOTES ON THE BACTERIOLOGICAL STUDY OF
DIPHTHERIA.*

BY WYATT JOHNSTON, M.D., MONTREAL.

My original object in studying cases of diphtheria bacteriologically was to settle the nature of a series of those doubtful cases in which a diagnosis is practically impossible by the ordinary means of observation, and where the occurrence of post-diphtherial paralysis or the outbreak of similar or more typical sore throats is the earliest positive proof of the true nature of the case. As I have found it impossible to continue the work on account of the difficulty in obtaining clinical histories of the cases, I wish to publish the results obtained from the examination of another series of cases, most of which were capable of being diagnosed as diphtheria without much difficulty.

Some time ago I showed before this Society cultures obtained from cases of diphtheria in which the growth had presented the typical characters of the Klebs-Löffler bacilli. The main characteristics of this organism are :

(1) Rapid growth in serum at blood temperature leading to the formation of well characterized colonies in 16 to 24 hours.

(2) Peculiarities of structure, especially the presence of involution, bacillus forms having clubbed or swollen ends, with granular, unevenly stained protoplasm.

(3) Toxic effects, producing pseudo-membranous inflamma-

* Read before the Medico-Chirurgical Society of Montreal.

tions, followed by characteristic paresis, in cats and rabbits, and uniformly killing guinea-pigs in two to five days when injected subcutaneously, with production of necrosis, surrounded by local inflammations and œdema at the site of inoculation, and usually associated with more or less marked parenchymatous degenerations and areas of cell-necrosis of the viscera. This condition is distinguished from other forms of experimental septicæmia by the fact that bacteria are absent from the blood and viscera.

These toxic effects are most striking, and serve to distinguish this organism absolutely from all other species of bacteria. They depend on the fact that the diphtheria bacilli generate an albuminous poison or toxin which, when absorbed into the system, produces fever, cell necrosis and paralysis, which symptoms and lesions can be also brought about by the injection of sterilized cultures containing the *toxin* alone without any living bacilli. The primary local lesions in diphtheria are probably due both to the toxic action of the poisonous substances evolved and the presence of the bacilli.

The disease diphtheria is therefore complex in nature ; the presence of the local exudation of false membrane and the toxic constitutional effects being each a necessary part of all cases of true diphtheria. As the diagnosis is naturally based upon the local inflammatory appearances, and as diphtheria is by far the commonest cause of pseudo-membranous inflammations, the term diphtheritic has come to be applied to all severe inflammations attended with the formation of false membrane and accompanied by necrosis, while the term croupous is applied to milder inflammations where there is no necrosis. It should be borne in mind that the terms diphtheritic and croupous are of anatomical and not of ætiological significance, as the neglect of this distinction has led to a great deal of confusion. Diphtheritic inflammation is most often caused by the disease diphtheria, but is not by any means invariably due to this cause, since every sloughing inflammation of a mucous surface presents diphtheritic characters and must be called, on anatomical grounds, diphtheritic. On the other hand, croupous inflammations have been shown by Paltauf-

Kolisko to be sometimes the effect of the action of the Klebs-Löffler bacilli, so that in this case we have a *croupous non-diphtheritic diphtheria*.

To prevent error, the terms diphtheria and diphtheritic should not be considered synonymous; and since the word diphtheritic has become too firmly established to be dropped from the vocabulary, it might be well if a suggestion of Dr. MacAllister (*Practitioner*, June, 1890) were adopted and the word *diphtherial* used always to express ætiologically in relation to the specific cause diphtheria, applying the term diphtheritic simply in its more general anatomical sense.

There is evidence to show that cases occur in which an anatomically genuine diphtheritic sore throat may be caused by other organisms than the Löffler bacilli. Roux and Yersin (*Pasteur Annales*, July 1890) record with great care several such cases where the infection was due apparently to streptococci. Out of 80 cases of angina admitted to the diphtheria wards of the Childrens' Hospital, the bacilli were found in 61. Roux and Yersin had no scruples in classing the other 19 cases, in which no bacteria were found, as non-diphtherial angina. A much more remarkable series was that published by Dr. T. M. Prudden, where, in 24 cases of diphtheritic sore throat occurring in children, streptococci were found in 22 and staphylococcus aureus in 2, while the Löffler bacillus was not met with in a single instance. It is important to note that these cases were obtained from an epidemic among children who were inmates of an institution in which scarletina and erysipelas were epidemic at the time.—(*Amer. Jour. Med. Sci.*, May 1889.)

A subsequent series of 12 cases, all fatal, by the same author (*N. Y. Medical Record*, April 18th, 1891), showed the presence of the virulent Löffler bacilli in every instance, and a carefully prepared table appended, giving the total number of cases investigated in this manner by various authors up to date, shows that the Löffler bacilli were found in 307 out of a total of 342 examined—about 90 per cent. The suggestion that the cause of diphtheria in America differed from that in Europe had been previously disproved by Prof. W. H. Welch and Dr. A. C.

Abbott, who, in a most exact study of eight cases of typical diphtheria occurring in Baltimore, found the Loeffler bacilli present in every instance.—(*Johns Hopkins Hosp. Bulletin*, Jan. 1890.)

That diphtheritic membrane can be produced amongst other causes by the streptococcus pyogenes is shown by the uniform presence of this organism in the diphtheritic endometritis occurring in puerperal fever. The only statements as to the absence of the Loeffler bacilli in diphtheritis of other regions than the throat is that furnished by Paltauf and Kolisko, who were unable to find the bacilli in this condition or in intestinal or cutaneous diphtheritis phagædena.—(*Wiener med. Wochenschrift*, No. 8, 1889.)

I have tabulated below the cases collected by Dr. Prudden and added my own cases. (I have not included in this table the cases where I was not able to obtain satisfactory material for examination, as I found in cases A 2 and A 3 that the bacilli might easily be missed if the secretions only were examined, and although found in portions of actual membrane).

OBSERVER.	REFERENCE.	No. of Cases Examined.	Loeffler Bacilli.	
			Present in.	Absent in.
Babes	<i>Zeitschrift f. Hygiene</i> , Bd. 5	42	42	0
D'Espine	<i>Revue Medicale de la Suisse, Romande</i> , 1888, No. 1	14	14	0
Ortman	<i>Berl. Klin. Wochen.</i> , 1889, No. 10	16	15	1
Spronck	<i>Central. f. Pathol.</i> , Bd. 1, p. 218.	7	7	0
Roux and Yersin....	<i>Annales de L'Institut Pasteur</i> , Dec. 1888	15	15	0
Paltauf and Kolisko.	<i>Wiener Klin. Woch.</i> , 1889, No. 6	50	50	0
Zarniko	<i>In Aug. Dissertation</i> , Kiel, 1889	20	18	2
Beck	<i>Zeitschrift f. Hygiene</i> , Bd. 8	52	50	2
Sorensen	<i>Nordiskt Medicinskt Archiv</i> , Bd. 18, No. 25	10	7	3
Escherich	<i>Cent. f. Bacteriologie</i> , Jan. 2, '90	22	20	2
Tangl	<i>Cent. f. Pathologie</i> , Bd. 1, p. 795.	18	18	0
Briesen and Fraenkel.	<i>Berl. Klin. Wochen.</i> , Mar. 17, '90	22	22	0
Prudden (1st series)...	<i>Am. Jour. Med. Scie.</i> , May 1889.	24	0	24
Welch and Abbott....	<i>Johns Hopkins Hosp. Bul.</i> , vol. 2, No. 11	8	8	0
Prudden (2nd series).	<i>N. Y. Med. Record</i> , April 18, 1891	12	12	0
Johnston	<i>Montreal Med. Jour.</i> , Sept. 1891.	10	9	1
		342	307	35

The method of examining is very simple, and no one having an elementary training in bacteriology would have any trouble in carrying it out. Following the directions of Roux and Yersin

(*Annales Pasteur*, July 1890), I employed sterilized serum, obtained either from ox-blood or from hydrocele or pleuritic exudation. I can quite confirm the statements of these observers as to the advantage of this medium over agar-agar jelly, since by employing serum the colonies of the diphtheria bacilli are readily recognizable at the end of twenty hours, or even earlier if the serum be "improved" in the manner recommended by Loeffler, through the addition of one-fourth its bulk of a broth containing peptone, beef-tea and sugar. On the other hand, if agar-agar be employed, the colonies are never recognizable before the end of forty-eight hours, and show nothing strikingly characteristic before the fourth day. As the essential object of the examinations is to make an early and positive diagnosis, the saving of twenty-four hours would seem to be of vital importance in itself, but the serum method has also the advantage of permitting the diphtheria bacilli to bring their colonies to maturity before the other bacilli which are present have even commenced to form visible colonies. With agar, on the other hand, the two days needed for the appearance of the diphtheria colonies affords ample time for the development of the putrefactive forms, if these are present in any large number. The only advantage of the agar method is that the pyogenic staphylococci and streptococci which are usually present have more characteristic growth than on serum—a matter of secondary importance.

There is a current impression that the serum is difficult and troublesome to prepare, and this has led to its use being avoided in many laboratories when any other medium can be substituted. This idea is quite erroneous, as serum is as easily made as any of the other nutrient media—in fact, far easier than gelatine, if prepared according to the method given by Hueppe (*Centralb. f. Bact.*, July, 1887), which consists in coagulating and sterilizing the serum at once simultaneously. After the tubes are filled to a depth of one to two inches they are laid obliquely in rows in a thermostat, which is then heated till the inner temperature reaches 68° to 75°C. After half an hour or more at this temperature the tubes will be found to have coagulated, leaving the serum nearly transparent. The temperature can now be raised

to about 90° by bringing the water in the jacket to the boil, and the tubes should be exposed to this heat for half an hour each day on three or four successive days, when, on placing them in the incubator in the usual manner, all but a few will be found to remain perfectly sterile. If Loeffler's serum is required, the serum is mixed with one-fourth its volume of Loeffler's bouillon before filling into the tubes. This addition does not interfere with the property of coagulating and remaining transparent. If blood serum is employed, care should be taken in collecting it that the clot is allowed to form before transporting the jars of blood. After standing forty-eight hours in a refrigerator or in a cool cellar, an abundant supply of clear serum can be obtained. The presence of small traces of hæmoglobin in the serum does not much impair its translucency, certainly not enough to render it unsuitable for the isolation of diphtheria bacilli.

The serum tubes could be prepared and kept in stock by druggists if the method ever comes into general use, which seems unlikely. The examination may be made from material taken direct from the throat by scraping the membrane, or, preferably, a piece of membrane may be detached by a pair of forceps or a swab of cotton wool. If the membrane has to be transported, it may be put into a clean, dry test-tube or folded up in blotting paper. To examine, it need only be moistened by a drop of sterilized water. A microscopical examination can be made by smearing the piece of membrane over the surface of a cover-glass, passing it three times through a flame. After drying and staining with a drop of any aniline stain, but preferably by Gram's method, the diphtheritic bacilli are seen as short thick rods (about the same length as tubercle bacilli), lying in little groups. These bacilli are present in enormous numbers in the early stages of diphtheria, but diminish rapidly in number as the membrane softens. The highly characteristic involution forms, which assume comma or club shapes with swollen ends, and present a protoplasm broken up into small granules, are only recognizable with a good immersion lens.

The cultures are made by drawing the infected needle in parallel lines along the surface of the serum. By treating two

or three tubes in this fashion, the infecting material at first abundant and producing a continuous dense growth, will in the second or third tube only implant a very few bacteria, so that the colonies can be studied separately. The tubes are to be kept at about body temperature for twenty-four hours, when minute white points appear on the surface of the serum, attaining about the size of pin-heads or of split peas. These, if found under the microscope to consist of bacilli, are probably the diphtheria bacilli, as the other forms would not have attained such size in so short a time.

The other colonies which attain such proportions in twenty-four hours are almost invariably found to be micrococci, usually the *staphylococcus pyogenes*.

I will not go further into the culture experiences with the bacillus than to say that I have been able, in all my cases, to confirm the statement first made by Welch and Abbott, of the Hygienic Institute, that the bacilli form an abundant invisible growth on potatoes, a medium stated by previous observers to be unsuitable for its cultivation. I also can substantiate the statement of Beck, that the agar cultures do not show the characteristic involution forms.

The method, however, has a serious defect, since an organism exists which is identical in size and appearance with the Loeffler bacillus, and grows on serum in a similar manner, though totally devoid of pathogenic properties. This is called the pseudo-diphtheria bacillus, and has been frequently found in the throats of healthy persons, as well as in follicular tonsillitis. The proof, therefore, is not absolute until substantiated by the inoculation of some susceptible animal. How far this pseudo-diphtheria bacillus would interfere with the method in practical work is not yet certain. Personally I have so far only met with the virulent or true bacillus.

The results of my examinations are as follows :—

Of nine cases examined in which the diagnosis of diphtheria could be made without much difficulty from the symptoms and the appearance of the throat, the Klebs-Loeffler bacillus was found in eight. In the case where it was not found, the con-

dition was one of an undoubted false membrane which contained, microscopically, large numbers of bacilli which appeared to be the organisms in question but did not appear in the cultures. When the specimen was taken the throat had just been freely sprayed with a solution of hydrogen peroxide, and the negative result may have been due to its disinfectant power of inhibiting the growth, though the fact that colonies of staphylococcus aureus appeared make that less likely. There was an anomalous course in this case, since the throat was found perfectly clear of membrane on the following day, preventing my repeating the experiment. In spite of this the disease appears to have been true diphtheria, as the nurse stated that the patient had a distinctly nasal voice when he left the hospital, ten days later. The bacillus was also found in an anomalous case where an extensive false membrane existed with almost no disturbance of the general health. In this case there was no paralysis.

In six cases where the diagnosis was doubtful, the bacilli were not found. Several cases of follicular tonsillitis and a case of scarletinal sore throat were examined with negative results.

I have divided the cases into two groups—(a) where the condition was clinically like diphtheria, and (b) anomalous cases. The cases are as follows, the first being given in detail and the remainder summarised in a table at the end of the article.

Case 1.—M. L., female, aged 21, admitted April 9th, 1891, into the female medical ward of the Montreal General Hospital, under Dr. Ross, with a suspicious-looking patch of membrane in both tonsils and a tiny membranous patch on the side of the uvula; temperature $102\frac{1}{2}^{\circ}$. Next day an extensive patch of dirty gray membrane was seen in the uvula and soft palate. Transferred to diphtheria ward. Seen on April 11th; temperature 100° ; had a patch of membrane on left anterior pillar of fauces. Discharged May 2nd; no paralysis.

Microscopic examination of the membrane showed an enormous number of short, thick bacilli, a few larger bacilli, and some clusters of micrococci.

Cultures in serum made on May 11th and kept at 35°C . showed on the following day numerous small, flat, white colonies

composed of short, thick bacilli, having the typical appearance of the Loeffler bacilli. Involution forms numerous. In agar plates small, flat colonies appeared on the second and third days, showing superficial thin concentric growth from a small central white spot. In stale culture in agar the growth, on first transplantation, was barely visible, but in subsequent generations the colonies became more distinct, forming always flat, circular, concentric, white growths on surface about the entry point of the needle. Microscopically the bacilli in the agar cultures were short, thick rods with rounded ends; their length was about 0.0015 to 0.002 mm. (one and a half to two-thousandths of a millimetre). None of the agar cultures showed involution forms.

April 28th, 1891.—Inoculated a very large, full-grown female guinea-pig with 0.7 ccm. of a watery suspension obtained from washing a seven days old culture in six per cent. glycerine agar-agar. Injected subcutaneously in right flank.

May 6th.—Found dead in cage; had been quiet and refused food for past three days. In right flank, at site of inoculation, induration and gray opacity of skin and subcutaneous tissue, with some hemorrhage; marked oedema extending from this spot to right axilla and backward to right groin.

Microscopically, a few bacilli corresponding in size to Loeffler bacilli found in the oedematous fluid. Microscopic examination of blood, lungs, liver, kidneys and spleen negative. Kidneys swollen, opaque and grayish in sections; extensive swelling and degeneration of epithelium in convoluted tubes; a few casts seen in the tubules. From oedematous fluid cultures in two serum tubes showed on following day numerous small colonies of a bacillus corresponding to Loeffler bacillus with well marked involution forms, staining well by Gram's method. Cultures from blood, spleen, lungs, liver and kidneys, all remained sterile.

The remaining cases, except a few of special interest, are briefly summarised in a table, as they were for the most part practically repetitions of the one given above. One case was of special interest and occurred in the private practice of Dr. Major. In this case, which I saw for the first time on the seventh day,

the membrane had nearly all gone, and on the first examination no Loeffler bacilli were found, although two agar tubes and two serum tubes, as well as three Petri dishes, were all seeded from a piece of membrane. In this case an oïdium appeared strongly resembling that of thrush, and I considered the case to be thrush complicated with staphylococcus infection. Dr. Major stated, however, that at the onset the condition was unmistakeably that of diphtheria, and the correctness of his diagnosis was proved some days later by the onset of severe and persistent paralysis of the palate. In the interval I had obtained a fresh piece of membrane which yielded two colonies of the Loeffler bacillus. This case shows that a negative result is of no diagnostic value when the membrane is clearing, even when a fairly exhaustive examination has apparently been made. In another case I found an oïdium growth, readily distinguishable, however, from thrush, associated with a large number of Loeffler bacilli.

The uncertainty of examinations made at a late period in cases going on to recovery was shown in another case, for the opportunity of examining which I am indebted to Dr. W. S. England. In this case I saw the patient on the seventh day. A distinctly membranous exudation had been present, returning within twenty-four hours after being scraped off, but always confined to the tonsils. In this case smear cultures on five glycerine agar tubes failed to show any bacilli, the seeding being done directly from the membrane in the throat. In this case a tiny particle of membrane which had been obtained at the time of examination was seeded on serum a week later, and yielded two colonies corresponding to the Loeffler bacilli, one of which was tested and found to kill a guinea-pig in the typical manner.

In two cases I had great difficulty in obtaining suitable material for examination, owing to the affection being confined to the posterior nares, and where a prolonged local examination seemed unjustifiable owing to the profound exhaustion of the patient. In these cases I made cultures daily from the nasal discharge for several days, but without in any case obtaining the Loeffler colonies. In one of these cases (Case A 2) the nurse afterward obtained for me a small fragment of membrane

from which I obtained colonies having the characteristic culture appearances, and which killed a guinea-pig in the typical manner. In the other case (Case B 2), *staphylococcus aureus* and *citreus* were present in enormous number, together with a few streptococci, but no Loeffler bacilli were found.

In a fatal case (Case A 9), where an autopsy was performed by Dr. Finley, who kindly sent me the respiratory organs for examination, the larynx and trachea showed an extensive sheathing of diphtheritic membrane extending down to the main bronchi. Large numbers of the Loeffler bacilli were obtained from this membrane, and an area of pneumonia from the lung showed a small number of the bacilli associated with a large number of small diplococci. No streptococci were found.

In an anomalous case already cited, brought to my notice by Dr. H. S. Birkett (Case B 5), an extensive soft, yellowish membrane covered the posterior nares and extended over the epiglottis and into the larynx. This membrane could be readily removed without causing bleeding, but tended to recur. The general health of the child was unaffected. Cultures on agar yielded an abundant growth of a single bacillus form, forming prominent yellow white surface colonies. Inoculated into the conjunctiva of rabbits, no effect was produced, and I was inclined at the time to regard the bacteria as being possibly the pseudo-bacillus, but on re-investigating the cultures some three months later I found that they gave the typical Loeffler colonies on serum, with an abundant invisible growth on potatoes, and showed on both these media most characteristic involution forms. Inoculated into a guinea-pig, this organism showed a high degree of toxic virulence, killing the animal in thirty-six hours. The autopsy on this animal showed an opaque hæmorrhagic, reddish-gray indurated area at the spot of inoculation, surrounded by a zone of serous œdema. Cultures from the organs and from the serous exudation remained sterile, but typical Loeffler colonies were obtained from the circumscribed hæmorrhagic patch at the site of inoculation. These colonies, on being transplanted on agar, gave only the characteristic, flat, compact, concentric surface growth of the Loeffler organism, and not the abundant

prominent growth of the original tubes. For this reason it appears probable that the original colonies were impure, containing both the Loeffler colonies and some other form, which latter was subsequently eliminated in passing through the serum culture.

In cases which were examined at an early stage the Loeffler bacilli were found almost in pure culture. In most cases the staphylococcus aureus was found, but it was usually scanty. The colonies closely resemble those of the Loeffler bacilli for the first day, but can be distinguished at the end of forty-eight hours. Streptococci were seldom met with, and then only in isolated colonies, the scarcity of this organism being contrary to what I had been led to expect from a study of the literature. In the anomalous or doubtful cases, on the other hand, either staphylococcus and streptococcus, or both together, were present abundantly in all instances. The influence of these pyogenic bacteria on the course of true diphtheria is a point greatly needing investigation.

In cases examined during the period when the membrane had begun to soften—that is to say, after the third day in ordinary mild cases—the falling off in the number of diphtheria bacilli was most marked. This did not seem to be due here to the antagonistic action of saprophytic bacteria, as has been commonly assumed, since, as a rule, the cultures made in late stages in cases going on to recovery remained perfectly sterile, except for the few scattered colonies of Loeffler bacilli. This result I attribute to the inhibitory action of the local disinfectant applications—in most of the cases a spray of peroxide of hydrogen was employed—but I have made no experiments to determine this point.

A matter of considerable interest is the question whether this method of examination will ever come into general use, and if such be the case, what class of practitioners could carry it out to the best advantage. This point is considered by Prof. Welch of Baltimore in an address delivered before the ninety-third annual session of the Medical and Chirurgical State Faculty of Maryland in April, 1891 (*Medical News*, May 16, 1891). In

this address, which by a masterly treatment of the facts places the prophylaxis and treatment of diphtheria on a broad scientific basis, Professor Welch does not think that the hopes of Roux and Yersin, that the method may yield good results in the hands of unskilled persons, are likely to be realised. He thinks that an elementary training in bacteriology is needed in those carrying it out, and suggests that as elementary courses on bacteriology have now become so common that it will not be long before most communities will possess at least one person capable of doing the work satisfactorily. My own experience has shown me that doubtful cases, which are those in which the value of the method should be best shown, the chief difficulty is in obtaining suitable material for examination are of two kinds—first, those where the condition resembles tonsillitis and the exudation is confined to the tonsils; and, second, those where the local disease is situated in some part of the respiratory tract not readily examined, or where the severity of the constitutional symptoms renders a prolonged examination difficult. As the procuring of a small piece of the false membrane at the earliest period possible is the *sine qua non*, and to do that in this latter class of cases requires a special manipulative skill only possessed by a skilled laryngologist, the task will properly fall to this individual. The aid of a throat specialist seems indispensable in cases where the local examination presents much difficulty. Possessed of suitable material, the best results in the further examination would certainly be obtained in a properly equipped laboratory.

In the cases where the confusion arises from the membrane being confined to the tonsils, the case is much more simple, and there is less need of the services of the laryngologist; all that is required being to detach a small piece of the exudation, wrap it in paper, and send it to some laboratory for examination.

Considering the gravity of the interests at stake in the prompt recognition and isolation of cases of diphtheria, one would naturally suppose that a method which enabled a positive diagnosis to be made within twenty-four hours, in cases seen during the first days of the illness, would be welcomed eagerly by the profession. That this has not happened is due probably in great part

to the wise precaution of treating all doubtful cases as if they were cases of diphtheria, and possibly, too, in some degree to a tendency to pride ourselves upon our sagacity, valuing the result of a clever guess more than that obtained by a less brilliant, though more certain, method. As a matter of experience, a large proportion of the doubtful cases, especially the tonsillitis group, declare themselves to be one thing or the other by the time the doctor makes his visit on the following day.

In conclusion, it may be stated :

(1) That in almost all cases where strong clinical grounds exist for the diagnosis of diphtheria, the bacteriological examination has shown the almost invariable presence of the malignant Loeffler bacilli.

(2) That, excepting in connection with scarletina, measles or erysipelas, the number of cases of diphtheritic sore throat due to other causes is very small.

(3) That in doubtful cases the accuracy of the method depends chiefly upon obtaining suitable material at an early stage of the disease.

(4) That the method is not of much service in doubtful cases where the difficulty is due to the infection occurring in localities difficult to examine without skilled manipulation, unless suitable material is obtained for examination.

SUMMARY OF METHOD FOR DETECTING LÖEFFLER BACILLI.

Microscopical Examination.—Stain a cover-glass smeared by a bit of membrane with any aniline dye. The bacilli are arranged in small clumps, and are short, thick rods, about same length as tubercle bacilli, but much thicker; numerous beaded and drumstick shapes met with—in solution forms. Gram's staining method can be employed.

Cultures.—Can be made direct from membrane in throat or from small bit of membrane folded dry in clean paper. No special antiseptic precautions necessary. Touch or scrape membrane with a sterilized platinum needle and draw it in parallel streaks over the surface of a serum tube, using two or more successive tubes before re-infecting the needle. Keep the tubes at body temperature. In 20–24 hours the Loeffler bacilli appear as small grayish-white points, size of pin-heads, showing under the microscope the characteristic appearances of the bacilli in the original membrane.

Diagnosis.—(a) Other bacilli do not form visible colonies at twenty-four hours. (b) Staphylococcus colonies resemble those of Loeffler bacilli to naked eye appearance, but recognized on microscopic examination. (c) Pseudo-diphtheritic bacilli have microscopic and culture characters of the Loeffler bacilli, but have no pathogenic properties.

Pathogenesis.—Subcutaneous inoculation of guinea-pig kills in two to five days, with hæmorrhagic necrosis and œdema at site of inoculation. The bacilli can be recognised microscopically and by culture near spot of inoculation, but blood and viscera give negative results. Disseminated parenchymatous degeneration of liver and kidneys.

The following is a tabular analysis of the cases, divided into two groups:—

GROUP A.—Cases evidently diphtheria.

Number of cases examined, 9. Result: Positive 8; Negative, 1.

No.	Name.	Sex.	Age	Service.	Course.	Result of Examination.	Remarks.
1	M. L.	F	21	M. G. Hospital.	Recovery	Typical.* Oidium also found.	Began as Tonsillitis,
2	L. E.	M	2	Do.	Death.	Typical.	Nasal diphtheria. Bacilli in bit of membrane. None in nasal secretion.
3	Mrs. T.	F	28	Dr. England.	Recovery	Two colonies only.	
4	W. P.	M	16	M. G. Hospital.	Do.	No Lœffler bacilli; abundant staphylococcus pyogenes aureus.	Rapid disappearance of membrane, (nasal voice).
5	L. M.	F	10	Dr. Major.	Do.	Only two colonies found. Oidium present	Marked diphtherial paralysis.
6	F. P.	M	8	M. G. Hospital.	Do.	Typical.	
7	E. G.	F	10	Do.	Do.	Typical.	
8	L. P.	M	13	Do.	Do.	Typical.	
9	M. G.	F	4	Do.	Death.	Typical.	

* In cases marked "typical" a large number of the virulent Lœffler bacilli were found.

GROUP B.—Anomalous cases.*

Number of cases, 5. Result: Positive, 1; Negative, 4.

1	O. P.	F	20	M. G. Hospital.	Recovery	Negative.	Exudate confined to Tonsils.
2	C. W.	F	24	Do.	Do.	Negative.	Nasal diphtheria? Nasal voice. Local examination unsatisfactory.
3	A. C.	M	1	Do.	Do.	Negative.	Local examination unsatisfactory.
5	W. J.	M	8	Do.	Do.	Negative.	Scarletina.
6	B.	M	8	Dr. Birkett.	Do.	Positive.	

* Cases 1, 2 and 3 of this series were placed in the diphtheria ward of the Montreal General Hospital. Several cases of follicular tonsillitis were also examined, always with negative results.

CASES IN PRACTICE.

BY ARCHIBALD E. MALLOCH, M.D., HAMILTON, ONT.

I.—TRAUMATIC SUPPURATIVE SYNOVITIS OF LEFT KNEE—
RECOVERY IN STRAIGHT POSITION WITH VERY LIMITED
MOTION.

May 12th, 1890, 8 p.m.—Visited F. H., aged 12, at his home and found him suffering from acute inflammation of the left knee, with the following history: On the 8th he fell on a thorn, which pierced the skin on the inner side of the patella; he thought little about it, and did not mention the accident to his mother; the following day he went to the country apparently well, and returned this afternoon unable to walk or even to put his foot to the ground. The leg lies on its outer side perfectly rigid, with knee slightly flexed, and with an angry red blush from middle of leg to above the knee; there is general swelling without appreciable joint distension; the most tender as well as the reddest spot, where there is slight puffiness, is over the head of the tibia on its inner side, two inches below the site of puncture, which is marked as a slightly dark-reddish spot the size of a small pin's head; large superficial veins course from the knee upwards on the thigh. No foreign body is to be felt at site of puncture; he assures me the thorn was not broken. Joint thoroughly washed and wrapped in towel wet with carbolic-sublimate solution, and placed on back splint reaching from top of thigh to heel and supported with sand-bags, and weighted with one to counteract the "startings." Temperature 101°F.

May 13th, 4 p.m.—Joint swollen. Under chloroform, a three-inch opening was made into the joint on the inner side, letting out some thin purulent matter with flakes of lymph; the lower angle of the wound being well down on head of tibia. No foreign body was felt; the track of the thorn-wound was cut out. A similar three-inch incision was made into the joint on the outer side of the patella. The joint was then thoroughly douched with 1 to 1000 carbolic-sublimate solution, drainage tubes inserted, and dressings applied; splint, etc.

May 14th, a.m.—Pulse 102; temperature 99°F. *6 p.m.*—Pulse 106; temperature 101°F.

May 15th, 10 a.m.—Pulse 104 ; temperature 100°. Dressed under chloroform ; knee quite in marked contrast to its appearance on the 13th ; some serum escaped from the tubes. Dressed and put up in Watson excision of the knee splint (to permit of dressing without disturbing the limb, using paraffine bandages). Suspension to cradle. Though improvement in the general symptoms followed this treatment, there was fever of from 99° to 100° at night. The knee was dressed daily.

May 23rd.—Eats well ; complains only of pain in the knee at night ; slight discharge on dressings ; wounds broader than originally, and there is pain on pressure on the head of the tibia and on the condyles of femur, showing some degree of osteitis. 9 p.m.—Temperature 99°.

May 25th, 9 p.m.—Temperature 99°.

May 27th.—Splints removed and reapplied, as there was some pressure on the malleoli.

After this date the wounds ceased to spread out and cicatrization began. The temperature, which was always slightly raised in the evening, fell to normal on the 19th of June, and did not rise subsequently.

July 12th.—Splints removed and passive motion commenced.

July 17th.—Leg straight ; slight motion, but he will not let me make passive motion ; his mother can do nothing with him.

In the fall the knee was slightly flexed and there was slight motion. By means of a posterior hinge splint with extension screw the leg was straightened in a few days. He was ordered to keep the leg in a splint at night. Slight motion as at first.

March 17th, '91.—Limb straight, very slight motion ; walks without crutches ; ordered to use the hinge splint at night, flexing the leg as much as possible with the screw and straightening it in the morning. Cannot advise forcible flexion under chloroform, as I know he will not allow the necessary subsequent passive motion to be made.

II.—TRAUMATIC SUPPURATIVE SYNOVITIS OF LEFT KNEE— RECOVERY WITH PERFECT MOTION.

May 30th, 1890.—Saw Miss M. W., aged 8, with Dr. Ross of Dundas. The following history is taken from his notes which

he kindly sent to me: Slight habit; no history of illness; mother's family healthy; father said to suffer from consumption. While playing, she ran or was forced against a nail sticking in a fence, which appears to have penetrated the left knee just to the inner side of the patella; not much attention was paid to it; she walked about until the 25th. On the 28th Dr. Ross first saw her, when the joint was swollen and distended. There was on the dressing a considerable amount of discharge resembling white of egg, and which apparently came from the joint. From the knee upwards there was swelling, heat and redness, and most of the pain was referred to the part above the knee; the leg was swollen. She was put to bed and cloths wrung out of perchloride solution were applied, with hot poultices externally. The following day there was no discharge, and the swelling was not increased. A probe passed about one-quarter of an inch into the wound, but no pus was seen. On the afternoon of the 30th the swelling, pain and redness were increased, especially on the thigh; she had had a bad night, and the temperature was 104°F. Dr. Malloch being in town, I showed him the case; he recommended opening the joint, and assisted in doing this. Under chloroform, a free incision was made over the situation of the wound, giving exit to a large quantity of thin and flaky pus; a counter opening was made well down on the outer side of the joint, the cavity fully syringed with a 1-1000 perchloride solution, a drainage tube on each side, gauze and jute dressings applied, and the leg put on a back splint. 11 p.m.—No pain; temperature 100.8°F.

May 31st.—Temperature 99.6°F. Swelling has subsided, especially in the thigh; discharge not great; syringed thoroughly with perchloride solution and dressed as before.

June 1st.—Temperature 101.6°F.; discharge small and not offensive; wounds syringed and tubes replaced; solution does not pass through from one side to the other.

June 6th.—Temperature 99.2°F. Swelling less; inner wound quite wide and bulging in the centre; communication established between the wounds.

June 10th.—Condition since the 6th much the same. Under chloroform, passed tube from one wound to the other; made an

opening lower down on inner side and passed a tube from upper wound to this ; dressed and put up leg in permanent splint, which admitted of dressing without disturbing the splint ; joint suspended ; temperature 100°F.

June 14th.—Temperature 99.8°F. Doing better ; less pain and tenderness ; swelling abating ; appetite improving.

From this on, the temperature went down to normal and the swelling, tenderness and pain subsided. On the 28th of June the tubes were inserted only in the lower wounds. On July 6th the inner one was dispensed with, and on the 10th the outer one, the patella being then found moveable. The splint was removed on the 14th and the joint found moveable. She shortly after began to go on crutches, and by practising passive movement the mobility of the joint steadily increased.

March 30th, '91.—Dr. Ross writes : I saw her a few days ago and the joint is just as useful as the other, and if it be not quite as moveable, is almost so.

III.—PISTOL WOUND OF LEFT KNEE—RECOVERY WITH PERFECT MOTION.

Dec. 8th, 1890, 1.15 p.m.—C. McQ., aged 14 years, when attempting to uncock a pistol of 32-calibre with its muzzle resting on his left thigh, his knee being flexed in the sitting position, it went off, the ball entering about three inches above the patella, in a line with the hollow between that bone and the inner condyle of femur. The skin was scorched and black for some distance around the ragged wound. He states that the pistol was pointing downwards, forwards and outwards, and though there is no effusion, Drs. Mullin, Roxburgh and myself felt quite sure the joint was in all probability injured. There was no other wound. The doctors attended to the preliminary washing, while I went home for instruments, etc. Chloroform was then administered an hour and a half after the receipt of the injury, and on exposing the limb decided effusion into the joint was noticed ; the wound was enlarged upwards and downwards, and the track followed to the upper limit of the sub-crural synovial pouch, the tissues being charred to that depth. The joint was then opened

by a free incision on its inner side, and a director having been passed under the patella, it was cut down upon at the most dependent part of the joint on its outer side and the wound enlarged upwards. The lower angle of this wound corresponded with what seemed to be the direction of the pistol wound, and about it there was some unusual fatness, but the bullet which we expected to find there was not felt. All the burnt, blackened tissue in the thigh was cut away; the knee was then thoroughly douched, as well as the thigh wound, with 1-1000 carbolic-sublimate solution, drainage tubes inserted, moist gauze dressings applied and a long posterior splint. 9 p.m.—Vomiting; pulse 90; temperature 98°F.

Dec. 9th, 10 a.m.—Restless night, with startings of leg; pulse irritable and fast; temperature 99°F. Dressings removed and wounds syringed through the tubes with 1-1000 carbolic-sublimate solution. Some pent-up fluid escaped from the inner knee incision; redressed. 9 p.m.—Pulse 120; temperature 100°F. Complains of dull, heavy feeling in leg, with occasional startings; a bran pillow was applied over thigh to counteract the startings.

Dec. 10th.—Passed a fairly good night after a quarter grain of morphine; took a fair breakfast; pulse 98°F.; temperature 98.2°F.; dressed and syringed as before.

Dec. 11th.—Dressed as before; limb quite quiet, but the thigh wound is broader; feels easy and eats well.

Dec. 21st.—On removing the shortened drainage tube from the external joint wound and introducing the metal nozzle of the syringe it grated upon something; with a pair of forceps the bullet, which was lying apparently loose in the wound, was extracted. (Where was it, and why was it not found at first?)

Dec. 24th.—Drainage tubes removed.

Dec. 31st.—Wounds quite superficial, the knee ones nearly healed; with the leg on the splint he bent his knee slightly, and was ordered to do this each day.

Jan. 29th, '91.—Seen at office; wounds have been healed some time; can nearly semiflex the joint; passive motion to be made each day.

It should have been noted that his left leg and left arm have been partially paralyzed since infancy.

April 4th.—His mother reports that he walks as well as he ever did.

Cases of septic injury to the knee are of especial interest, from their rare occurrence in general practice and from the fact that they were considered among the most serious of surgical cases, leading as they did in general to ankylosis, frequently to amputation, and occasionally to loss of life. Since the days of antiseptic surgery, however, and from its use, of the disappearance of the old dread of free incisions into synovial cavities, better results are to be had. When sepsis is present in such a complicated joint as the knee, it can hardly be expected that one flushing with antiseptic will overcome the mischief, which in two of these cases had been breeding for days.

I have no doubt but that the case of F. H. would have been materially shortened had daily syringings been practised, as was done in the other cases. F. H., however, has himself to thank for the stiffness, for had passive motion been allowed such would not have been the result.

In these sepsis cases with suppuration, early and free incisions with thorough primary flushing with 1 to 20 carbolic acid solution, or 1 to 500 carbolic-sublimate solution, daily subsequent flushings with a weaker solution so long as the temperature rises at night, with perfect rest from the first on a splint permitting of subsequent dressings without disturbing the limb, must be the rule.

Reviews and Notices of Books.

International Clinics : A Quarterly of Clinical Lectures on Medicine, Surgery, Gynæcology, Pediatrics, Neurology, Dermatology, Laryngology, Ophthalmology, and Otology, by Professors and Lecturers in the leading Medical Colleges of the United States, Great Britain and Canada. Edited by John M. Keating, M.D., J. P. Crozier Griffith, M.D., J. Mitchell Bruce, M.D., F.R.C.P., and David W. Ferilay, M.D., F.R.C.P. April, 1891. Philadelphia: T. B. Lippincott Company.

The editors propose to make this periodical a complete post-graduate course of medical instruction. It will be their endeavour to publish those clinical lectures only which are most instructive and most practical. All the most prominent teachers and the best known schools and hospitals of the United States, Great Britain and Canada will be represented. In the present volume we are pleased to see Canada represented by the late lamented Dr. R. L. MacDonnell, who contributes a lecture entitled "A Case of Enlarged Liver with Jaundice," and by Dr. J. Chalmers Cameron, Professor of Obstetrics, McGill University, on "Elevation of Temperature during the Puerperal Period." Other contributions and contributors to this volume are: Acromegaly, by James Ross, M.D., LL.D., F.R.S.; Sore Throat, by Christopher Heath, F.R.C.S.; Pneumonia; Cirrhotic Kidney and Liver; Fibroid Degeneration of the Heart, by A. L. Loomis, M.D.; Hydrothorax (Pythorax ?) with Dextrocardia, by W. T. Gairdner, M.D., LL.D.; Modern Methods in Surgical Operations, by W. W. Keen, A.M., M.D.; Ulcers, by D. W. Cheever, M.D.; The Early Diagnosis of Pregnancy, by Matthew D. Mann, A.M., M.D.; Cancer of the Vagina, by Wm. Goodell, A.M., M.D.; The Remote Effects of Traumatisms as Seen by the Neurologists, by H. C. Wood, M.D., LL.D.; The Treatment of Obstinate Sciatic Pain by Splint-Rest and Cold, by S. Weir Mitchell, M.D., LL.D.; Psoriasis, by Geo. H. Fox, M.D., &c.

We understand that this work is for sale in the Dominion

through the Canadian Subscription and Publishing Company of Montreal. We can especially recommend it to our esteemed friend the general practitioner.

SECRET REMEDIES IN FRANCE.—In the *Journal d'Hygiène* of June 11th, 1891, is published the reply of M. Crinon to a letter from Sir Edward Sieveking to the French Society of Hygiene, asking for precise information on the subject of secret remedies in France. It runs thus: "There are a very considerable number of secret remedies in France. Among secret remedies are included every drug not contained in the French Pharmacopœia, or not approved by the Academy of Medicine. Since the publication of the last edition of the Pharmacopœia no drug has been formally approved by the Academy, and therefore every non-official drug comes under the heading of 'secret remedy.' Slight variations of official formulæ do not, however, come under this heading, as they are allowed in practice to be legal." This comprehensive and sweeping definition of a secret remedy may have the virtue of simplicity, but it has the drawback of including these new drugs which are in no sense secret. It bans all new therapeutical substances with an unpleasant name, until they have been formally received into the French Pharmacopœia, even though their formulæ and mode of preparation are as well known as those of any official drug.—*British Medical Journal*.

*Society Proceedings.***BRITISH MEDICAL ASSOCIATION.****EXTRACTS FROM THE ADDRESS IN MEDICINE.**

By T. LAUDER BRUNTON, M.D.,
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Advances in Knowledge and Teaching Due to Experimental Method.—These changes have occurred both in the profession itself and also—to some extent in this country at least—in the education and training of the men who enter it. We notice, first, that a very great increase has occurred in the knowledge of the nature, causation, and treatment of diseases possessed by the profession as a whole, but perhaps a still greater gain is in the general adoption of the experimental method by which most of our recent knowledge has been acquired, and from which we may hope even greater advantages in the future. In correspondence with the acquirement of knowledge, we notice also a great alteration in the teaching of medicine, and especially prominent is the tendency to make such teaching practical instead of theoretical by training men to place their dependence upon objective facts, and not to receive without experimental data the theories or speculations of any master, however great he may be.

Practical Training.—Five-and-twenty years ago, not only was practical training such as we now find in the scientific departments of medicine—chemistry, physiology, pathology, and to a certain extent also pharmacology—almost entirely wanting, but even in general clinical medicine, not to mention the special departments of the throat, eye, and ear, it was very deficient as compared with what it is now. The greatest advance made in the last quarter of a century has been in the direction of the accumulation, co-ordination, and teaching of facts instead of theories, of the phenomena of Nature as opposed to the fancies of the human mind.

Co-ordination of Facts.—But the mere accumulation of facts is of little use unless they can be so arranged, compared, and grouped as to bring them into relationship with some general law, and this we find in the world's history has been done from time to time by some master-mind. In the case of medicine, this has also occurred to a great extent during the last five-and-twenty years.

Influence of Darwin.—Medicine, both in its principles and practice, is really a subdivision of biology, and this, like all other branches of knowledge, has been most profoundly modified by the general acceptance of Darwin's great thoughts—the doctrine of evolution, the struggle for existence, and the survival of the fittest. Wherever we turn we find that Darwin's influence has modified the direction of thought, and whether the study concerns the evolution of the elements, the evolution of the planetary systems, of living beings, of communities, of customs, of laws, of literature, science or art, in every department of human knowledge we find that men, consciously or unconsciously, are influenced by Darwin's work. It is with shame I confess that five-and-twenty years ago, although I had taken a university degree not only in medicine but in science, and might therefore be supposed to be acquainted with his work, I did not even know of the existence of his "Origin of Species," and I first heard its name in Vienna from the lips of an Austrian who was speaking of it in terms of the highest praise. "What is it?" I asked, and my question then seemed to cause my foreign friend as much astonishment as it causes myself now, when the possibility of such ignorance seems to me, as it must to you, almost incredible, and yet such was the fact. The publication of Darwin's "Origin of Species," in 1859, has done more to change the current of human thought than anything else for centuries, but while its influence is everywhere felt, biology and all its subdivisions have been more especially affected.

Struggle for Existence in the Profession.—I was much struck a year or two ago with the evidence of this severity which I saw in the house of a medical man residing in a neighborhood which had gradually deteriorated. This doctor had a large

practice, and was very hardworked, but his fees were small ; and in order to educate his children, some of whom were in the profession, expenses had to be greatly retrenched at home. The house was large, and at one time had been tastefully decorated, but the paint was faded on the walls, the carpets were worn threadbare, and the furniture was poor and old. The severity of this struggle is, no doubt, due to the excessive number of men who have been entering the profession notwithstanding the barriers raised by the entrance examination ; for this very barrier, by raising the quality of the men, has naturally raised the estimation in which the profession is held, and has, therefore, made it more attractive. But the excessive severity of the struggle, on the other hand, has a tendency again to lower the profession by rendering it so difficult for medical men to make a bare living that they are sometimes tempted to think more of their fees than of the welfare of their patients, and occasionally to resort to such means of making money as tend to bring discredit both on themselves and on the profession to which they belong. It is possible that the new regulation of the Medical Council requiring a five years' curriculum may tend to lessen this evil by preventing so many men from entering the profession. This longer curriculum is becoming absolutely necessary on account of the rapid progress which is being made in medicine and the time required to master the increased knowledge, not only regarding the nature of disease and the means of treating it, but regarding the means of ascertaining its presence. Long ago the doctor's means of diagnosis consisted in inspecting the tongue, feeling the skin, counting the pulse, shaking the urine, and looking at the motions and the sputum. But now, in addition to a thorough training in auscultation and percussion, students have to learn the use of the laryngoscope, ophthalmoscope, and otoscope, and the application of electricity. They have to acquire a knowledge of the chemistry of the urine and its alterations in disease, and, what takes still more time, they have to learn the microscopical appearances, not only of the tissues and excretions in health, but their alterations in disease, and must be acquainted with the methods of staining so as to detect tubercle bacilli and other disease germs.

Apparent Change in Disease.—Increased knowledge of diagnosis has led to an apparent change in the mortality of different diseases. Thus, the frequency of deaths from heart disease appears to be much greater, and that from apoplexy much smaller now than fifty years ago. In all probability this difference is not real but only apparent, and is due to the more accurate diagnosis by which the presence of cardiac disease is now ascertained. The supposed increase in the frequency of cancer is probably in great measure due to a similar cause, for I am quite certain that many cases which were formerly classed as chronic diarrhoea, dysentery, jaundice, or dropsy, were really due to malignant disease of the abdomen, while others probably depended upon unrecognized disease of the kidney. For up to a recent date so little attention was paid to the condition of the urine that about fifteen years ago, when examining proposers for life assurance in place of a friend who was away on his autumn holiday, I was astonished to find that there was no apparatus at the office for examining urine, and I believe that it is only within the last ten or twelve years that an examination of the urine for life assurance has become general.

Real Changes in Disease.—But real changes as well as apparent ones have occurred in diseases. Some have become more frequent and others are rarer. Thus, typhoid fever is almost certainly more common, because the increase of our sewage system has given greater facilities for its spread. Typhus fever, on the other hand, has become comparatively rare, and the story of its extermination in Edinburgh is very interesting. Five-and-twenty years ago your President was constantly wearing a smoking-cap because his head had been shaved during an attack of typhus, and a few months later one of the physicians and two of the house physicians to the hospital in Edinburgh died of the disease, while one just escaped with his life. There were, I believe, at the end of 1867 nearly 150 typhus patients in the hospital at once. A few years later the disease was completely exterminated by the alterations in the town necessitated by the new university buildings. A certain narrow lane called Hastie's Close, which was a hotbed of typhus fever, and from

which the disease used to make periodical excursions into the neighboring districts, was pulled down, and since then typhus has almost entirely disappeared. Pyæmia is another disease which, although not totally extinct, is very greatly lessened in virulence. When I was a student it was the dread of the surgical wards, and I remember one patient dying of it who had been admitted simply for a slight injury to the finger tip, which necessitated amputation of the last phalanx. Now, thanks to the antiseptic treatment introduced by Lister, such cases are almost unknown.

Departments of Greatest Advance.—Five-and-twenty years ago we knew only too well that typhus was infectious, and that pyæmia and erysipelas were likely to spread in a ward when once they got into it, but we did not know then the causes of these diseases as we do now, nor had we the same means at our disposal wherewith to combat them. The departments in which the greatest advances have been made within the last five-and-twenty years are in those of fevers and diseases of the nervous system. A new era in the study of the latter was foreshadowed by the experiments of Fritsch and Hitzig on the brain of the dog, but it can only be said to have fairly begun with Ferrier's localization in the brain of monkeys of the cortical centres, both motor and sensory, for the brain of the dog was too unlike that of man for experiments upon it to be of much practical use in the diagnosis of human ailments, while the likeness in the brain of the monkey to that of man at once allowed conclusions drawn from the experiments upon the former to be transferred upon the latter. Yet if we try to describe in one word the department in which medicine has made the greatest progress within the last quarter of a century, that word must be "fevers;" for during this time we have learned to recognize fever by the use of the thermometer in a way we never did before; we have learned the dependence of the febrile process in the great majority of cases upon the presence of microbes in the organism, and we have become acquainted with an immense number of chemical substances which have the power both to destroy the microbes and to regulate the febrile process.

Introduction of the Thermometer.—It is true that the thermometer was used by Danielssen, in leprosy, before the year 1848, and its more general use began with Wunderlich's observations nearly thirty years ago, but it is only within the last five-and-twenty years that its use has become at all general. It was only during the latter period of my service as house-physician that the clinical thermometers introduced into this country by Aitken came into use in the Edinburgh Infirmary, and cumbersome instruments they were, for they were nearly a foot long, and I used to carry them about the wards under my arm in a case big enough to have held a set of amputating instruments. Their size and brittleness combined were a complete obstacle to their general employment in practice, whereas the small, accurate and yet moderately priced thermometer is now to be found in every doctor's waistcoat pocket. During one of the last years of my student life I saw a man suffering from double pneumonia nearly die, his life being saved by the accidental presence of a Swedish doctor. The man was completely comatose, and everyone thought he would die; but the Swede, who had seen similar cases saved by bleeding and cold effusion, proceeded to apply these remedies with complete success. No one who witnessed the wonderful way in which the man was snatched from the jaws of death could fail to be deeply impressed by the scene, but no one knew then why the man was dying or how the remedial measures acted. Now the use of the thermometer enables the merest tiro to recognize such a case as one of hyperpyrexia saved by the abstraction of heat. The constant employment of the instrument shows everyone, nurses as well as doctors, when the temperature of a patient is rising so high as to be dangerous, and allows them in many, perhaps in most cases, to prevent a further rise by the use of antithermic measures, such as cradling, cold sponging, cold effusion, cold baths, or by the administration of antipyretic remedies.

New Methods.—The rapid increase in our knowledge has been due not merely to the constant use of old methods, but to the introduction of new ones, and more especially to the general recognition of the fact that the same strategy which has often

proved so successful in war is to be applied in attacking complex problems. They are to be separated as far as possible into their several components and each of these is to be overcome in detail. As presented to us by observation at the bedside, the problems of disease are too complex for us to solve, and we are only succeeding in doing it by examining the various factors one by one in the laboratory. The greatly increased powers of the microscope and the better methods of illumination have been of the greatest service, but their utility would be very much less than it is had it not been for the general introduction of the microtome and the invention of new methods of staining. When I was a student the microtome was only used for cutting sections of wood in the class of practical botany. About that time it was employed by Mr. Stirling, Professor Goodsir's assistant, in the preparation of animal tissues, but I believe that we owe its general introduction to Professor Rutherford. The facility with which sections are made by it has made microscopical research much less tedious, and has enabled trained histologists to do more work in a given time, and medical students to acquire knowledge more rapidly. But without the method of staining introduced by Weigert and Ehrlich, we should, even with the best microscopes, be unable to recognize most of the microbes which are so important in the causation of disease.

Small and Great, Foolish and Wise.—In looking at another of the greatest advances which medicine has made—namely, the knowledge of infective disease—we can see how enormous results can arise out of very small beginnings, and the safety of nations may be consequent upon a research which many men would have termed useless or even frivolous. I can hardly fancy any better illustration of St. Paul's observation about the foolish things of this world confounding the wise than Pasteur's researches on tartaric acid; for what could seem more foolish to the so-called practical man than the question, "Why does a crystal of tartaric acid sometimes take one shape and sometimes another?" Yet from an attempt to answer this question has arisen the whole of Pasteur's work on fermentation in general, and on that of wine, beer and vinegar in particular, whereby he

has been able to save millions to his country by accelerating the production of vinegar and preventing the souring of wine and beer. His observation that tartaric acid sometimes turned the ray of polarization to the right, sometimes to the left; that, indeed, there were two crystals apparently alike, but really different; and that these could be combined so as to form a symmetrical crystal having no power of rotation, led him to look to life and living beings as the source of asymmetry. He tried to produce this asymmetry in salts of tartaric acid by fermentation, and found that during the process an organism developed which eats up the dextro-tartaric acid, and leaves the lavo-tartaric acid behind. This led him to investigate such minute organisms, and, by simplifying the soil in which they grew, and separating the organisms one from another, he learned the conditions of their growth, and showed most processes of fermentation were due to the presence of living organisms. It is true that while Pasteur was still a boy at school, Peyen and Persoz had shown that the liquefaction of starch and its conversion into sugar was due to diastase, and that Dumas in a report of a paper by Guerin-Varry had pointed out that, although unlike diastase, the active principle of the gastric juice had not been isolated, it was probably a ferment of a somewhat similar kind. Dumas classed yeast as a ferment along with diastase, and the fact that such a process as conversion of starch into sugar could be effected without a living organism, naturally rendered it all the more difficult for Pasteur to prove his thesis that most fermentations were due to living organisms.

Chemical and Biological Views of Fermentation.—The two views of the action of ferments—namely, the chemical and the biological—may, I think, fitly be likened to Pasteur's two kinds of tartaric acid, each of which is lopsided and incomplete by itself, and only when united forming a symmetrical whole. There can be no doubt of the truth of the chemical view that diastase is not a living organism, and yet converts starch into sugar. There can be as little doubt of the biological view that yeast and other organisms which cause fermentation are living bodies, and that without the presence of these living bodies alcoholic, acetic, and other forms of fermentation would not exist.

Microbes and Enzymes.—But recently we have come to recognize that these living organisms may produce their effect by manufacturing chemical ferments, and that these ferments may occasionally do the work, although the organisms which form them may be absent. It is quite true that it is difficult—perhaps impossible—to get fermentation from the dead yeast plant, but we may find a parallel for this in the fact that the pancreas of the higher animals sometimes yields an active ferment and sometimes not. Nor need we wonder that the ferments produced by microbes have but a slight action compared with those of the microbes themselves, if we remember how very little power of digestion a dead pig's stomach has as compared with the amount which can be digested not by the live animal itself only, but by the herds of swine consisting of its "fathers and mothers, its brothers and sisters, its cousins and its aunts," during all the term of their natural lives; for in the process of fermentation microbes are growing, fermenting, and dying with great rapidity, and many generations occur in a fermenting fluid in the space of a few hours, so that the total effect they produce will be out of all proportion to any which can be got from the microbes themselves at a single instant.

Microbes and Disease.—From organisms as a cause of fermentation and of the diseases of wine and beer, Pasteur went on to investigate their action as causes of disease in living beings—first in the silkworm, next in the lower animals, and, lastly, in man. He established the dependence of the silkworm disease and of anthrax upon the presence of specific microbes which could be transmitted and communicate the disease, and by destroying the infected eggs of the silkworm he eradicated the disease and restored the silk industry to France.

Pure Cultures.—Pasteur's plan of growing disease germs outside the body in broth, although of the utmost value, did not allow a convenient separation of different germs; but this can now readily be done by Koch's plan of sowing them, not in a liquid medium but on solid gelatine spread on glass plates, so that the growth of the germs can be daily watched under the microscope and inoculations made from single colonies on other

plates until pure cultures have been obtained. By thus isolating the different microbes we learn their life-history, the mode in which their growth is influenced by differences of soil, of temperature, of moisture, by the addition of various substances which either favor or retard their growth, and, last but not least, the effect which one microbe has upon another when they are grown together at the same time.

Struggle for Existence amongst Microbes.—For even amongst these minute organisms the struggle for existence and the survival of the fittest exists, like that which Darwin pointed out so clearly in the case of higher plants and animals. When two microbes are growing together, one may choke or destroy the other, just as weeds in a garden may choke the flowers, or, on the other hand, successive generations of one microbe may render the soil suitable for another, just as decaying alga and mosses may furnish mould in which higher plants can grow.

Struggle for Existence between Microbes and the Organism.

—But it is not merely between different species of microbes or different cells in an organism that this struggle occurs. It takes place also between the disease germs and the cells of the organism which they invade, and the result of the struggle may be determined, not by some powerful agency which weakens or destroys either the organism or the microbe, but by some little thing which simply inclines the scale in favor of one or the other. Thus, in the potato disease the victory of the invading microbe and the destruction of the potato, or the death of the microbe and the health of the tuber, may depend upon some condition of moisture or possibly of electrical change in the atmosphere which aids the growth of the microbe disproportionately to that of the potato. These atmospheric conditions need not necessarily be antagonistic to the potato, they may even in themselves be advantageous to it; but if they help the microbe more than the plant, the microbe will gain the victory and the plant be destroyed.

Fight between Cells in Higher Organisms.—The fight between the organs which Æsop describes in his fables actually occurs between the cells in some vertebrate animals, and the

schism predicted by St. Paul as the result of such a fight actually takes place. For in the tadpole, at one stage of its existence some of the cells at the base of the tail begin to eat up others, with the result that schism occurs and the tail falls off.

Phagocytosis.—This struggle for existence between the cells of an organism and microbes has been beautifully shown by Metschnikoff in the daphne or water flea, where the process of the cells eating up the microbes or the microbes destroying the cells can be actually observed under the microscope. This process of phagocytosis is now regarded by many as only a small part of the struggle between an organism and a microbe, but it is impossible to see one part of a microbe half digested by the cell in which it is imbedded, while the part outside half remains unaltered, without believing that the process is one of great importance. At the same time, it seems that the process of phagocytosis, where the microbe and the cells meet in close conflict, bears about the same relationship to the total struggle that a bayonet charge bears to a modern battle. The main part of the fight is really carried on at some distance by deadly weapons, by bullets in the case of the soldier, and by ferments, poisonous albumoses, and alkaloids on the part of the cells and the microbes. In some of Metschnikoff's observations we can almost see this process, for he has figured leucocytes dead, and apparently burst by the action of conidia, lying close to but yet outside them, as if these conidia, like the dragons of fable, had spit out some venom which had destroyed them.

Venom of Microbes — Within the last two years attention has been gradually becoming directed less to microscopical examination of the microbes themselves and more to chemical investigation of the ferments and poisons which they produce; yet, strangely enough, the very moment when chemistry is becoming more important than ever has been chosen to minimize the teaching of it in medical schools, and examination in it by licensing bodies. It is now possible to separate the albumoses and poisons from the microbes which produce them either by filtration, or by destroying the microbes by graduated heat; for, as a rule, they are destroyed by a lower temperature than the albumose or poisons which they form.

Microbes and Enzymes.—As the albumoses produced by microbes are nearly allied, chemically and physiologically, to those formed in the alimentary canal of the higher animals by digestive ferments, it is natural to suppose that microbes, like the higher animals, split up proteids, starches, and sugars by enzymes, which they secrete, and which in both cases may be obtained apart from the living organisms which produce them; that, in fact, we should be able to isolate from microbes bodies which correspond to pepsine or trypsin, just as we can isolate these from the stomach or pancreas of an animal. In some, although not in all cases, this attempt has succeeded.

Poisonous Albumoses.—The albumoses produced by microbes resemble those formed during normal digestion in being poisonous when injected directly into the circulation, although they may not be so greatly absorbed from the intestinal canal. One of the most remarkable discoveries in regard to albuminous bodies is the fact that some of them which are perfectly innocuous, and, indeed, probably advantageous to the organism in their own place, become most deadly poisons when they get out of it. Thus the thyroid and thymus glands, which are perfectly harmless and probably useful, were found by Wooldridge when broken up in water to yield a proteid which instantaneously coagulated the blood if injected into a vein, so that the animal died as if struck by lightning, while Schmidt and Mühlheim, under Ludwig's direction, found that peptones had an exactly opposite effect, and prevented coagulation altogether.

Neutralization of Poisonous Albumoses.—Perhaps the analogy is too vague, but we seem to find here something very like Pasteur's two kinds of tartaric acid, one rotating polarized light to the right, the other to the left, but, when united together, having no action at all, for here we have two bodies, one of which destroys coagulability entirely, the other increases it enormously; while many albuminous bodies have no action upon coagulation whatever. This view would lead us to suppose that one form of albumose may neutralize the action of another, thus rendering them both completely innocuous, while either alone might be a deadly poison.

Zymogens and Enzymes.—Perhaps a similar process of splitting up and recombination may explain the formation and disappearance of the enzymes, such as pepsin and trypsin, by which digestion is carried on. The pancreas of a fasting animal will not digest albuminous bodies like fibrin, while the pancreas of an animal killed during full digestion will do so rapidly. Yet the fasting pancreas contains the zymogen, or mother substance, which yields the digestive ferment, and, as Kühne has shown, by treating it first with acid and then with alkali, it becomes active. Again, to recur to the analogy of Pasteur's tartaric acid, we seem to find that the inactive, and possibly symmetrical, albuminous substance of the fasting pancreas is split up by this treatment after death or during the process of digestion in life, and yields the lopsided and active pancreatic ferment. But, if this be so, what becomes of the other half which has been split off? We do not at present know, but curiously enough Lépine has lately shown that while the pancreas is pouring into the digestive canal a ferment which will form sugar, it is at the same time pouring into the circulation another ferment which will destroy sugar.

Immunity.—We must be very careful in our speculations and test them by experiment, but such observations as these may tend to throw some light upon the nature of immunity. Immunity is probably a very complex condition, and is not dependent altogether upon any single factor, but we can now understand that if a microbe has gained an entrance into an organism, and produces a proteid or an albumose poisonous to the organism which it enters, it may grow, thrive, and destroy that organism, while the injection of some other proteid which would neutralize the poison might save the animal while the microbe would perish.

Cure of Anthrax.—Thus Hankin has found that while a mouse inoculated with anthrax will die within twenty-four hours, a rat resists the poison altogether; but if the mouse after being inoculated with the disease has a few drops of rat's serum injected into it, instead of dying, as it would otherwise certainly do, it survives just like the rat, and from the spleen of the rat Hankin has isolated a proteid which has a similar protective action to that of the serum.

Cure for Tubercle.—Working on similar lines, Bernheim and Lépine used the injection of goats' blood in phthisis so as to stop, if possible, the progress of tubercle, and Richet has used the serum of dogs' blood. Lately I have used the serum of goats for a similar purpose, for the goat is quite immuned, and the dog is to a great extent, though not entirely, immuned from attacks of tuberculosis. The injection of goats' blood in somewhat large quantities has been given up, while dogs' and goats' serum in small quantities of 15 to 20 minims at intervals of several days is still under trial.

Antisepsis.—Perhaps no better example of this can be found than antiseptic surgery, from the time of the good Samaritan down to Ambroise Paré and Sir Joseph Lister. The good Samaritan bound up the wounds of the poor traveller, pouring in oil and wine, which, only a few years ago, was recommended in an Italian journal as an excellent antiseptic. Ambroise Paré, when his ointments ran out, could not sleep for thinking of the miserable soldiers to whom they had not been applied, and was greatly astonished to find in the morning that these wretched neglected ones were better and happier than their comrades who had been treated *secundum artem*. I have no doubt that Paré's predecessors in trying to improve upon the methods of the good Samaritan and upon the still useful friars' balsam, which is a powerful antiseptic but stings the whole wound, had tried to make their applications more and more irritating, not knowing that it was the antiseptic power and not the irritant qualities which were desired. Paré abolished the ointments with the irritation they caused, and thus did great service to surgery. But a greater one yet was rendered by Lister when he recognized that the danger of operations was due to the entrance of germs and by preventing this has completely revolutionized surgical practice; nay, more, he has to a great extent revolutionized medicine, for the diseases of the internal organs which were formerly entirely under the physician's care, are now becoming amenable to surgical treatment, and diseases of the stomach, intestine, liver, kidney, and lungs, and even of the brain and spinal cord, are now successfully treated by surgery when medicines are

powerless to heal. The most remarkable of all the recent triumphs of surgical operations upon the brain in which Mr. Horsley has gained such well-deserved fame, would have been impossible without Ferrier's localization of cortical centres, and would have been equally impossible but for Lister's antiseptic method.

Disinfection.—But it is not only in surgery that recognition of diseased germs as a source of danger to the organism has led to their destruction outside the body, and ensured safety from their attack. This occurs in all infective diseases, and this term now includes many which were not formerly regarded as such, for neither consumption nor pneumonia were formerly regarded in this light; but just about twenty-five years ago tubercle was shown to be inoculable, and since then the discovery of the bacillus of tubercle by Koch, and of pneumonia by Friedländer, have caused us to class both these diseases as not only infective, but as caused by definite organisms.

Prevention of Epidemic Diseases.—So long as people were ignorant of the causes of epidemic diseases, they were utterly unable to combat them, and they either in fury slew defenceless people for poisoning the wells, as in the Middle Ages, or appointed days of fasting and prayer, as in our own times. But once an epidemic is known to depend upon the presence of a certain organism, precautions can be taken for destroying the organism outside the body by means of disinfectants, or by lessening the susceptibility of the organism to its ravages inside the body by inoculation, or combating its effects by means of antipyretics. A knowledge of the life-history of microbes has enabled us to ascertain the power of different substances, either to destroy them completely, or to arrest or retard their germination and growth, and in this way to prevent the occurrence of the diseases which these microbes might otherwise produce.

Old and New Remedies.—In comparing the drugs at our disposal now with those we possessed twenty-five years ago, we are at once struck by two facts, namely, that we not only have a very much larger number of powerful remedies than before, but that we also know better how to use the old ones. Both of these

gains we owe to experimental pharmacology, to the testing of drugs upon the lower animals.

Antivivisection.—Every now and again a loud outcry is raised against this method, partly from ignorance and partly from prejudice. Many—probably most of the opponents of experiments on animals—are good, honest, kind-hearted people, who mean well, but either forget that man has rights against animals as well as animals against man, or are misled by the false statements of the other class. These—namely, those who, blinded by prejudice, regard human life and human suffering as of small importance compared with those of animals, who deny that a man is better than many sparrows, and who, to the question that was put of old, “How much then is a man better than a sheep?” would return the reply, “He is no better at all”—such people bring unfounded charges of cruelty against those who are striving, to the best of their ability, to lessen the pains of disease both in man and also in animals, for they, like us, are liable to disease, and, like us, they suffer from it. I may perhaps be allowed to quote two sentences from a paper which I wrote twenty-four years ago, and therefore a considerable time before any antivivisection agitation had arisen, for they expressed then and they express now the objects of experimental pharmacology: “Few things are more distressing to a physician than to stand beside a suffering patient who is anxiously looking to him for that relief from pain which he feels himself utterly unable to afford. His sympathy for the sufferer, and the regret he feels for the impotence of his art, engrave the picture indelibly on his mind, and serve as a constant and urgent stimulus in his search after the causes of the pain, and the means by which it may be alleviated.”

Gains by Experiment on Animals.—It is said that our mouths are full of promises, but our hands are empty of results. The answer to this is that anyone who doubts the utility of experiments upon animals should compare the *Pharmacopœia* of 1867 with our present one. To it we owe, in great measure, our power to lower temperature, for to it is due not only the introduction of new antipyretics such as salicylate of soda, antipyrin,

antifebrin, and phenacetin, but the extension of the use of quinine from a particular kind of fever—malaria—to other febrile conditions. To it also we owe our greatly increased power to lessen pain by the substances just mentioned, which have not only an antipyretic but an analgesic action, and give relief in the torturing pains of neuralgia and locomotor ataxy when even morphine fails to ease, unless pushed to complete narcosis. The sleeplessness, too, which is such a frightful complication in some fevers, can now be combated by other remedies than opium and antimony; and we have the bromides—chloral, sulphonal, paraldehyde, urethane, chloralamide, and others which, either by themselves or added to opium, enable us to quiet the brain instead of exciting it to further action, as opium alone so frequently does. Our whole ideas regarding cardiac tonics also have undergone a complete revolution within the last quarter of a century, for I was told when a student that digitalis was a cardiac sedative, and was apt to depress the heart, whereas now we know that it and its congeners—strophanthus and erythrophloeum and spartein—increase the heart's strength, raise the vascular tension, and are useful not only in sustaining the circulation, but in aiding elimination.

Future of Pharmacology.—But perhaps the most promising thing about pharmacology is that we are now just beginning to gain such a knowledge of the relationship between chemical structure and physiological action that we can, to a certain extent, predict the action of a drug from its chemical structure, and are able to produce new chemical compounds having a general action such as we desire, for example, anæsthetics, soporifics, antipyretics, and analgesics, although we have not yet arrived at the point of giving to each one the precise action which would make it most suitable in any particular case. Even when we do not know the chemical structure of a drug we may be able, from noticing one of its actions, to infer that it possesses others. I was led, from the fact that one or two cardiac poisons have a local anæsthetic action, to suspect that they would all have this, and the truth of my supposition has been experimentally demonstrated. The fact, ascertained by Binz, that hydrocelemine

alters the blood much in the same way as nitrates led me to suppose that this drug would also alter the blood pressure like nitrates, and this supposition, which was testified with the assistance of Mr. Bokenham, proved quite correct. We are, indeed, getting a knowledge of the action of drugs both of known and unknown chemical structure and a power of making new remedies which will, I believe, enable us within the next five-and-twenty years to cure our patients in a way that at present we hardly think.

ABSTRACT OF THE ADDRESS IN SURGERY.

By JOHN CHIENE, M.D., F.R.C.S. (Ed.), F.R.S.,

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My hero for to-day, whom I never saw, but whose one great work has been to me a classic, taught me to value a great principle, and I cannot but think that those present who knew him personally, who worked with him and were taught by him, will be the first to acknowledge that in taking him, and the great idea which he loved to inculcate, as my mainstay to-day, I am leaning on a strong staff, and that it will be entirely my own fault if I do not make the subject an interesting one. To those present who knew him not—there are not many present who do not know his worth—it is an absolute pleasure to me to be the imperfect medium of an introduction. My hero is John Hilton, and my principle is *rest as a therapeutic agent in the cure of surgical ailments*.

I estimate, year by year, more highly, the mental aspects of rest. The late Mr. Goodsir divided physiology into two divisions, anatomical and physiological, and in his graduation address in 1859 he laid down this axiom, "that the greater liability of man to disease is intimately related to his higher conscious intelligence"; he also says "that in the treatment of disease the adjustment may require to be, and in general must be, directed more or less to the psychical as well as to the physical conditions of the case."

We all know it is not work, but worry—mental unrest—which

kills, so a person will bear much physical discomfort in order that he may be relieved of the mental discomfort of his condition. I take into consideration in my practice and in my operation the effect that my decision in recommending any special treatment will have on the mind of my patient. In operations for cancer we all know how frequently they are unsatisfactory, but I think we hardly estimate the great mental depression which often follows on our refusal to attempt to give relief, more especially after the recurrence of the disease—after the primary operation has taken place. An attempt—even if unsuccessful—to remove a tumour will often give the patient a feeling of mental rest in the very thought that no stone has been left unturned in the endeavour to give relief. I desire as far as I can to give my patient mental rest, and for this reason I am often impelled to make the endeavour by operative means to give that relief which, looked on simply from the physical side, it may be impossible to underestimate, but, looked at from the psychological side, it may be impossible to overestimate.

I need not dwell on anæsthesia as a cause of rest in our patients, except to say that I still adhere to the views I expressed in a paper on Chloroform, read at the Cardiff meeting in 1885. I still hold that chloroform is the best anæsthetic; and I cannot help, as a pupil of Syme, feeling pride that the decision of the Hyderabad Commission, presided over by Dr. Lauder Brunton, so fully bears out the views held by that far-seeing man. Cocaine as a local anæsthetic is, in my opinion, of great value in adults. I have never seen any of the evil results, local or general, which have been described. We must take care to use a pure solution, and see that we do not inject it directly into a vein. These are the precautions which I have taken; and I use it either as a solution of salicylate of cocaine, or kept in pellets, and dissolved when required in camphor water or distilled water. I never inject more than half a grain. In the passage of bougies, in phymosis, in tracheotomy, in fissure, and in simple cases of fistula-in-ano, in excision of tonsils, before injecting iodine into a hydrocele, in small wounds before stitching, I have found the drug valuable. I allow four minutes to

elapse after injection before performing the operation. To prevent urethral fever—a purely nervous lesion—before passing an instrument I have used it in the form of a cocaine bougie. It is right to say that the use of local anæsthetics, such as cocaine, ether, or chloride of ethyl, may be overdone. The work of the surgeon may require to be done in too hurried a manner, not altogether satisfactory either to the patient or to the surgeon. Mental unrest, arising from a feeling of work imperfectly done, worries the surgeon; and in any operation requiring time, chloroform is to be preferred to the local anæsthetic.

Pain given to a patient, whether in the dressing of a wound or in the examination necessary to make a diagnosis, is a most fertile cause of unrest. Confidence is lost between patient and surgeon; this is more especially true in children. When I hurt a patient I always feel I am doing or have done wrong. Healthy wounds are not painful: the healing of a wound is a physiological process closely allied to—in fact, it is—growth. Inflammation in our wounds can be avoided, and, if avoided, then pain as a cause of unrest is unknown. Pain is to be avoided by every means in our power. Any movement of the patient is apt to cause pain, and every endeavour should be made, in the examination of the patient, to avoid pain. Also in the dressing of the wound the avoidance of movement is all-important, and in this connection I can speak very confidently of the value of the many-tailed bandage; the wound can be exposed without moving the limb. It is sometimes used to take the place of an ascending spiral; it can, however, be arranged as a spica or figure-of-8 bandage; any portion of the body can be covered with a many-tailed bandage. It always reminds me of the main characteristic of the British army. Each turn working well in unison with the neighbouring turns, and each turn having an independent power in itself—for turn read soldier. In fracture of the pelvis it is infinitely preferable to a roller bandage; it can be tightened and loosened without moving the patient.

One of the most frequent causes of local unrest in wounds and the free serous oozing which accompanies it is the use of unnecessarily strong antiseptics. We cannot avoid them altogether.

We must use them in a thorough manner for the purification of our hands, of the skin of our patient, and for our instrument if we have not a sterilising apparatus ; but as regards the wound itself, given an aseptic wound to begin with, the less of the antiseptic the better ; it is an irritant. A good many years ago a smart writer in a medical journal said, "Lister's argument are getting stronger, his solutions are getting weaker." If he had said, "his arguments are getting stronger because his solutions are getting weaker," he would have been nearer the truth. Asepticism is taking the place of antisepticism. The extent to which this can be carried out will depend on the security we feel when we operate on unbroken skin that we have not introduced any causes of fermentation.

In all cases in which complete rest of the trunk is called for, use a thick and firm mattress made in three pieces, the central portion of which can be withdrawn for the performance of the acts of defæcation in both sexes, and the act of urination in the female. The prevention of bedsores by the facility with which the sacrum and buttocks can be examined, and the dressing of these sores, when they do occur, is greatly facilitated by the triple mattress. In the diagnosis of injuries in the region of the hip, the use of Nélaton's line has been given up in my practice, because in order to reach the ischial tuberosity necessary for estimating the line the patient has to be moved. Its place is taken by noting the want of parallelism between two tapes, one passing through the anterior superior spinous processes, and the other through the tips of the great trochanters of the femur.

I might multiply examples, but I have given enough to illustrate my subject. I have endeavoured to expound the healing doctrine of rest. It has been my privilege to point to John Hilton as one of its great expounders, who has, more than any one else, impressed me with its value in surgery. I am anxious that anything I may have said will in no way interfere with the necessity, for those who have not done so, of a careful perusal of his work. You will not agree with many things he says. Take comfort in the thought that it must be a poor book with which you are entirely in agreement ; its stimulating effect on

you will be absent. After you have read the book you will grant that in him we have a careful observer and a conscientious worker, and one whose methods we will do well to imitate.

Before I conclude I would wish it to be understood that there is another side to this picture, or perhaps it may be the same picture looked at from a different standpoint. It is that much harm may be done by too excessive attention to rest. Evil may result from too prolonged rest. Mechanical rest may, in one sense, be antagonistic to physiological rest. Mechanical rest, in many cases, must be interfered with in order to attain physiological rest. An example will best show my meaning. Immediately after an injury the effusions into the tissues may, by their presence, interfere with the normal blood current through the part. At a later date these effusions are replaced by organised material which will also act in the same way. The nerve equilibrium will also be altered. The part will then be, from the vascular and nervous side, in a state of physiological unrest, and this unrest will be intensified by prolonged mechanical rest, because, unless there is a normal blood current, the effusions and fibrous material will not be removed. It is therefore necessary that, while we maintain mechanical rest after a part is injured, we should at the same time adopt some means to remove these products. It is here that massage is so valuable; lightly applied it has a marked soothing influence on the nerve disturbance; more strongly, though still gently applied, it will get rid of the effusions by causing a temporary congestion and free flow of blood through the part; still more strongly applied, it breaks down fibrous adhesions and gets rid of the pain felt in certain movements of the limb. While the massage interferes with the mechanical rest, it acts directly in relieving the physiological unrest. Experience alone will tell how far we can go with massage in order to attain the one object—the physiological rest—while at the same time we avoid doing harm by its over-use by interfering with the mechanical rest. In acute sprains and strains it may be begun at once, gently night and morning, using elastic pressure with wadding and a flannel bandage in the intervals of the massage. In subacute cases it may be used

more freely, wearing an elastic bandage in the intervals, along with limited use of the injured limb. In chronic cases, which are non-tuberculous, adhesions may be freely broken down, often giving immediate relief after months of partial impairment of usefulness.

I am also strongly of opinion that in fractures near joints, as in Colles' and Pott's fracture, massage may with advantage be begun within a week, with the result that while the repair of the broken bone is in no way interfered with (I rather think it is aided), the limb is a useful one at a much earlier period than is the case if, as in the orthodox treatment, the limb is kept absolutely quiet for three or four weeks. If we think only of the broken bone and forgot the injury to the surrounding soft parts, the result is a stiff and useless limb, which will for a long time be a source of discomfort and helplessness to the individual. It is a question exercising my mind whether we should not apply gentle massage in all fractures, as a matter of routine practice, so long as we can do so without displacing or causing movement between the broken fragments of the bone. The use of extension during the massage applied to the limb beyond renders this method much more feasible than it formerly was when we depended entirely on splints applied at the seat of fracture commanding the joints above and below. It is interesting to note in this connection that no fractures heal more kindly and quickly than broken ribs, in which it may truly be said that during the whole process of cure the act of breathing is keeping up a constant gentle movement, a nature's massage, which in no way interferes with the union of the broken bone.

In breaking down adhesions in old standing cases of fracture, sprain, or strain, one must act in a decided manner. Their presence is associated with limited movement, pain on movement, or pain on pressure, and the use of firmly applied rotatory massage, or the sudden stretching of the tissues which are matted together, often gives immediate and lasting relief.

In the case of nerve stretching in sciatica, the cases which are benefited are, in my opinion, those which may be called trade sciaticas, due to some special position adopted in the special trade

pressing on and irritating the sciatic nerve. You freely stretch the nerve, but do not interfere in any way with the sensory and motor functions, and the pain is relieved by breaking down the fibrous adhesions in the nerve sheath and among the nerve fibrils. May I say in passing that the operation is sometimes a source of psychical unrest to the operating surgeon if he does not easily find the nerve ; this unrest is avoided if, in operating, the patient lying on his face, the surgeon will stand on the opposite side to the limb to be operated upon. If he then makes an incision over the nerve at the lower border of the *gluteus maximus* large enough to enable him to introduce his forefinger, which, using as a hook, he draws towards the middle line of the patient, he will at once find the nerve lying external to the muscles arising from the *tuber ischii*.

New lamps may have been expected of me to-day ; if so, my hearers have been disappointed. " Let us make a stand on the ancient ways, and then look about us and discover what is the right and straight way, and so walk in it." Bacon was fond of quoting this passage, and it has been my motto. I have taken my stand on an ancient way ; I have tried to polish and refill an old lamp.

James Hinton, another of my heroes, in one of his letters, writes : " Let me advise just once. I don't like an adviser much ; but just this one thing—be reverent where you are ignorant, and attach no weight at all to your naturally feeling sure. We almost always feel sure wrongly—it is our own fate, it is our very being." The speaker to-day may be too sure, and may place too much reliance on rest as the most powerful therapeutic agent in surgical practice, but he can assure you that he has had Hinton's words constantly in his mind as he spoke, and what he has said is offered to this audience in the same spirit in which they were written by that philosophic surgeon. I began with a sentence from Hilton ; I end with one from Hinton. These men had something in common. Hilton taught rest ; Hinton sought it. In one of his last letters he writes these sad words : " I have tried for too much, and failed ; but yet, perhaps, in that my failure God is giving me more than even I tried for. He has opened

my eyes, at least a little, though I am blind and foolish still, no doubt. I will try and be wiser and look more, and care more what others feel." Strange words from one who spent his whole life for the good of others.

At a time fertile in unrest in religion, politics, and surgery, in the county in which Gilbert White spent his days, in the county in which he wrote one of the most restful—I had almost said *the* most restful—book I know, rest as a thesis is perhaps not altogether out of place, especially when I remember that to many of us this meeting is our annual holiday, our resting stage, and still more especially when I remember that we are enjoying the generous hospitality of the inhabitants of one of the main resting-places in this country, where so many get that rest which enables them to go back to work with energies renewed and restored by the fresh air and restfulness of one of the most attractive rest resorts in Great Britain.

Selections.

The Influence of Diet on the Growth of Hair.—(By E. D. MAPOTHER, M.D.)—Several cases of shedding of hair after influenza have confirmed my opinion that diet has much to do with the production and with the cure of symptomatic alopecia. Hair contains 5 per cent. of sulphur, and its ash 20 per cent. of silicon and 10 per cent. of iron and manganese. Solutions of beef, or, rather, of part of it, starchy mixtures, and even milk, which constitute the diet of patients with influenza and other fevers, cannot supply these elements, and atrophy at the root and falling of hair result. The colour and strength of hair in young mammals is not attained so long as milk is their sole food. As to drugs, iron has prompt influence. The foods which most abundantly contain the above-named elements are the various albuminoids and the oat, the ash of that grain yielding 22 per cent. of silicon. With care these foods are admissible in the course of febrile diseases, when albumen is the constituent suffering most by the increased metabolism. I have often found a dietary largely composed of oatmeal and brown

bread greatly promote the growth of hair, especially when the baldness was preceded by constipation and sluggish capillary circulation. Those races of men who consume most meat are the most hirsute. Again, it is well known in the Zoological Gardens that carnivorous mammals, birds, and serpents keep their hair, feathers, or cuticle in bad condition unless fed with whole animals and the egesta contain the cuticular appendages of their prey in a digested or partly digested state. It is also an old well proven fact that a closely restricted diet, cheese for example, soon produces in dogs a loss of hair. In treating fevers, a long course of non-nitrogenous diet may promote seborrhoea, which is so often a concomitant of the alopecia. When the special nutritive supply is secure, the depressed condition of the vasomotor and trophic nerves proceeding from the cervical ganglia to the scalp may be stimulated by blisters and liniments at the back of the neck. I have always found that friction of the scalp with pomades and lotions dislodges many hairs which might otherwise remain, and that cold or tepid baths with salt added and rough rubbing of the rest of the body will flush the capillaries of the affected part more effectually. Besides, when pomades are used, frequent washing becomes necessary, and this is conducive to baldness.—*Brit. Med. Journal.*

Recent Deaths under Chloroform.—In the course of some remarks made during the holding of a coroner's inquest, attention was drawn to what appeared to be a large number of deaths attributable to chloroform occurring at one institution during the present year. The institution is the Manchester Royal Infirmary, and the number of reputed deaths from chloroform since January last is five. We have, through the courtesy of a correspondent, been placed in possession of facts which show that the mortality stated cannot in justice be attributed directly to the administration of chloroform. Two cases out of the five are put down as being due to chloroform "pure and simple"; but beyond the remark that the persons "were bad subjects for the anæsthetic," no particulars are given. In the case of two other fatalities the particulars are given as

follows. In both instances they were emergency operations, and the patients had food in their stomachs—the vomiting of which and its being drawn back into the air passages were the determining causes of death. In Case 1 the patient suffered from a strangulated hernia with stercoraceous vomiting. As we are informed, “tracheotomy and herniotomy” were performed. It would appear that the vomit entered the trachea, and that this was the actual cause of the death, which took place upon the operating table. In the second case the patient, a railway shunter, was, whilst engaged in his duties, so injured that amputation through the forearm was rendered necessary. Recurrent hæmorrhage obliged the performance of reamputation, and while under the chloroform the patient vomited, and a portion of the vomit (the pulp of an orange) entered the windpipe, and necessitated tracheotomy and removal from the trachea of masses of pulp. The patient, however, survived this, and was able to converse with his friends, dying suddenly from syncope some few hours subsequently. In the fifth case the patient was a girl aged 14, upon whom osteotomy was to be performed. She had successfully undergone the operation for straightening one leg. The chloroform was administered by a skilful person, and, the osteotomy being completed, the patient was resuming consciousness. The dangerous symptoms were observed to occur just at the time that the knee, left stiff after the preceding operation, was being forcibly moved. The symptoms, we are informed, resembled those of severe shock. An additional point connected with these deaths is that a preparation of that substance now in common use—the Warrington chloroform—was employed, and some comment was made upon the fact that that preparation was under trial at the infirmary. The above narrative, and the evidence of chemical experts, proved beyond cavil that no blame could be imputed to the particular chloroform used. Another death in London is also reported in the practice of a surgeon of large experience, and while an expert was administering chloroform. The patient, a lady aged 25, was to be operated upon, and chloroform was selected as the anæsthetic; but the report before us does not state the particular reason for this choice.

The patient is said to have fainted during the administration, and, although measures were promptly adopted to restore animation, they proved futile, and death resulted, according to the lady's personal medical attendant, from cardiac syncope. To whatever cause it may be attributed, it would seem that the mortality under this anæsthetic is increasing, in spite of the fact that, as a rule, students have more careful instruction in the administration of anæsthetics than they formerly received.—*Lancet*.

The Prophylaxis of Diphtheria.—One of the results of recent bacteriological researches is the tenacity of life which the Klebs-Löffler bacillus presents. Roux and Yersin have kept for six months a culture in broth in a tube tightly sealed; this, when sown anew, gave strong colonies, and proved to be very virulent in the guinea-pig and hare. Clinical experience has confirmed the experience of the laboratory.

In diphtheria the substratum of the contagion is solid; the virus resides in the false membrane. If the liquids of the mouth are vehicles of the poison, it is through the fragments of false membrane which they contain. This contagion, deposited on cradles, furniture, the walls of the room, tapestry, has been known to be active after months and even years. Cadet de Gassicourt gives instances where the disease was contracted in a virulent form by sojourn in a room where months before a child had died of diphtheria. Darolles gives a "history of a cradle," which is instructive in this respect. In the course of an epidemic in the country, an infant died in a wicker-cradle of diphtheria. Darolles urged the parents to destroy the cradle, but they refused. Eighteen months afterwards another infant contracted diphtheria in the same place at a time when the disease was unknown in the village and died. Two years afterwards, a third infant contracted diphtheria in the same cradle and got well. The parents consented to destroy the cradle, and there were no more cases of diphtheria in that family. Sevestre, in his *Études de Clinique Infantile*, gives examples of the same sort. The contagion is exceedingly prone to cling to clothing, and the

disease has in many instances been traced to this source. In one case, a scarf worn around the neck of a child that had died of diphtheria seems to have been the means of communicating the infection to a sister of the deceased.

Fortunately, the contagion is of a heavy nature, and is but little diffusible; the disease may attack a family and spare the neighbouring families, and thorough disinfection seems markedly to limit its spread. There is some evidence that the disease has been communicated by fowls sick with a kindred affection, and that it has been conveyed in milk sold from dairies attached to houses where there are cases of diphtheria.

In the prophylaxis of this disease, the first requisite is thorough isolation of the patient. The same isolation should, as far as possible, be made to extend to other members of the family. Physicians attending the sick child should scrupulously disinfect their persons and their clothing. All clothing that has been worn by the patient should be subjected to prolonged boiling, or to a dry heat of 240°F ., before being again used. Thorough antiseptics of the sick-room should be practised, by sublimate washings and by burning sulphur. Children that have become convalescent should be disinfected by baths of weak sublimate water. There should be suppression of suspected milk, and an inquiry into all other possible sources of contagion, with a view to removing them. Maurice Nicolle makes a good hint in reference to physicians attending diphtheritic patients; they should put on a blouse before entering the sick-room, and remove it on leaving. Dr. Wm. H. Welch commends the prophylactic value, in persons liable to exposure to diphtheria, of cleanliness of the teeth and mouth, and of the frequent use of weak antiseptic mouth washes, nasal douches, and gargles. Loeffler recommends for this purpose aromatic waters, weak sublimate solutions (1 to 10,000), chlorine-water (1 to 1000), and thymol (1 to 500 parts of 25 per cent. alcohol).—*Therapeutic Gazette*.

The Treatment of Diphtheria.—Dr. Guntz of Dresden has had great success in the treatment of diphtheria with bichromate of potassium in water containing carbonic acid,

which he has found by numerous experiments on animals, as well as in the course of extensive clinical observations, to be entirely harmless. For an adult 600 grammes (about a pint) are ordered per diem, in which are dissolved three centigrammes (about half a grain) of potassium bichromate. The whole quantity is directed to be taken in about half a dozen doses, regarding which it is important to observe that they must not be taken on an empty stomach; a little milk or gruel should, therefore, be swallowed before each dose. Children, of course, take smaller quantities, according to age. They can be given the medicine in a tumbler, mixed with some fruit syrup, and they do not generally object to it. At the commencement of the disease, Dr. Guntz washes the mouth out with a one per cent. solution of permanganate of potassium containing one per cent. of thymol, or with a corrosive sublimate solution of the strength of 1 in 3000, taking care, in the latter case, that none is swallowed, and that the mouth is well rinsed with water afterwards. In the case of young children, the pharynx must be brushed out with the solution. Sometimes iodoform is employed, being applied on the tip of the finger to the affected spots. Dr. Guntz specially remarks that potassium bichromate, though harmless in the way described, is by no means so when in pills, powders, or in solution in non-carbonated water.—*Lancet*, March 28, 1891.

The Management of Lithæmia.—At the meeting of the Post-Graduate Clinical Society, held March 28, 1891, Dr. Andrew H. Smith read a paper on the "Management of Lithæmia" (*Post-Graduate*, July, '91), in which he said that he did not think we could assume that there was such a thing as lithuria without lithæmia, although we may have lithæmia without lithuria, in the sense of a deposit of lithic acid or of lithates in the urine. Lithæmia might be a condition and not a disease. Thus, we might have an excess of lithic acid in the blood without any symptoms of disease accompanying it. and, if we considered this a morbid condition of the blood, it might come within the definition of a disease; but there are many people who constantly exhibit deposits of lithic acid or urates,

and yet they are in perfect health ; and, again, the condition is frequently temporary and dependent upon exhaustion from severe muscular effort or upon a transient indigestion. If a disease, there should be associated with the cases of lithic acid in the blood some symptoms. It was probable that so long as the uric acid was freely eliminated it might be formed in considerable excess without disturbing the system ; but if, for instance, there were an acidity of the blood brought about by an imperfect digestion or assimilation, it would be possible for the acid to be precipitated in any part of the body, thus giving rise to disturbance of function of those parts. Where lithic acid was deposited in the tissues in combination with bases, we had the symptoms familiar to us in gout.

As to the diagnosis, Dr. Smith said we were apt to find a symptom group made up about as follows : The patient, without being positively ill, did not feel well, and suffered either from mental hebetude or from irritability ; or there might be insomnia, digestive disturbances, increased after eating ; generally there was constipation, frequently hemorrhoids, and often certain affections of the skin, such as lichen or eczema. Such patients frequently complain of giddiness and of specks before the eyes ; but irritability of temper was a very prominent symptom ; neuralgic pains, and aching and weariness of the limbs, are common. There is usually a deposit in the urine, either brownish or pinkish, consisting of crystals of uric acid, stained by certain colouring matters in the urine, or of lithic acid in combination with sodium, ammonium, or magnesium. This deposit occurs when the urine cools, and redissolves on heating. It is not soluble in the acids, except sulphuric acid, but is readily soluble in alkalies ; the urine is always acid, and it is this acidity which throws down the crystals of uric acid. From a clinical standpoint it was interesting to determine how far the uric acid was responsible for the symptoms which are associated with this condition. He thought we could hardly consider it settled whether the uric acid itself was the formation or the result. The determination of this question would probably involve the determination of whether uric acid was formed in excess, or whether, when in

normal quantity, it is deposited under certain abnormal conditions. For instance, if there were imperfect digestion and malassimilation, with consequent throwing into the blood of the products of fermentation, the acids produced might cause the deposition of the uric acid. It was certain that these symptoms were not uncommonly met with without any marked deposit of uric acid or lithates in the urine. However, if this condition be attacked by remedies upon the supposition that uric acid is the foundation of the trouble, the treatment is usually successful. Besides the formation of bile, the liver has the glycogenic function, and functions connected with retrograde metamorphosis, and probably the failure of lithic acid to be oxidized into urea is due in part to the defective action of the liver. This conclusion would seem to be a fair one from a clinical standpoint, for mercurials and also nitric acid have a peculiar action on the liver, and are peculiarly efficacious in lithæmia.

Clinically, this condition is presented to us, first, among people who do not take enough exercise in proportion to their eating; and, secondly, in a class of persons who are moderate eaters, but are of a highly nervous organization, and in this class the symptoms usually develop as the result of nervous strain, long-continued anxiety, or mental labour. The importance of bearing in mind these two classes is evident in the management of these cases. In the first class we would employ vigorous purgation, whereas in the second class the treatment would be rather of a tonic nature.

Management.—First, as to the matter of diet. As uric acid is a nitrogenous substance, we would naturally think that it would be sufficient to deprive the patient of nitrogenous material; but the habit of excreting such material still continues, even though it be withheld from the dietary. It is like a spendthrift, who cannot be cured by withholding money from him; he must be educated to better habits. Just as the spendthrift will pawn his clothes to get money, so the system will pawn the tissues, so to speak, to obtain nitrogen. Formerly, it was supposed to be essential to withhold nitrogenous food, but few insist upon this point now. The great point is to secure a diet which will be

readily assimilated, no matter what its composition ; for any other diet will inevitably result in the production of various fermentative products, acids, etc., which will derange the metabolic processes more than would result from a little, more or less, of some one constituent in the food. If the food occasions the patient distress soon after its ingestion, it can be assumed that the trouble is in the digestion of the albuminous materials. On the contrary, if the disturbance occurs later,—in other words, if the indigestion be intestinal,—we may say in a general way that the difficulty is with the carbohydrates and the hydrocarbons—the starches, sugars, and fats. The diet should be regulated tentatively, and then the further management of the case will depend upon which of the two classes the case belongs to. If the patient be plethoric, saline purgatives are valuable. Sir Henry Thompson considers the sulphate of soda particularly valuable, and he bases this view upon the fact that it purges by exciting elimination from the glandular structures, rather than by increasing peristalsis or osmosis, as is the case with the other saline cathartics ; and, in addition to this, it acts decidedly upon the liver. A course of purgations with salines, or with Friedrichshall, Hunyadi, or similar waters, is appropriate for the first few days. After this nitric acid should be administered for a week or two, and then a persistent course of alkalies should be given. Alkaline waters present the alkali in an agreeable form, and they insure the patient's taking a large quantity of fluid, which is necessary in these cases in order to secure a thorough action of the kidneys and bowels. In this country the most decidedly alkaline is the Saratoga Vichy. Waters containing lithia are especially valuable, for the reason that a smaller quantity of lithium will neutralize a given quantity of acid than almost any other alkali or alkaline earth ; thus, seven grains of lithium will neutralize as much acid as twenty-three grains of sodium or forty grains of potassium. The three prominent lithia springs are the Buffalo Lithia, Farmville, and Londonderry, the latter being the strongest. The waters should be taken for a long time, and in sufficient quantity to keep the urine very feebly acid.

Where the nervous symptoms predominate largely over the digestive disturbances, active purgation is not desirable ; the object of treatment should be to conserve the deteriorated forces, and in some cases it has even been suggested that the patients should be kept in bed. Appropriate tonics are indicated. Lithæmia being a condition of imperfect oxidation, it may be said that free exercise in the open air is a *sine qua non* of treatment. Neurasthenic patients, however, will need the open air without muscular exercise, and, therefore, carriage riding is appropriate.

One manifestation of lithæmia had come under the speaker's notice in which there were digestive disturbances, palpitation of the heart, and insomnia. This combination was most commonly found in the neurasthenic cases, and if their common origin is not recognized the patient is apt to be treated for each condition separately. The speaker referred to a severe case of this kind in which, after long symptomatic treatment, the patient was much worse and contemplated suicide. In that case the speaker employed lavage with the happiest results. The digestive disturbance was at the foundation of the difficulty, probably owing to fermentation in the intestinal canal. The cardiac palpitation arose from the same cause, and it was this that prevented sleep. With the relief of the dyspepsia all the symptoms quickly disappeared. In this class of cases, he believed lavage very useful, not only because of the local effect of the water upon the stomach, but the flushing of the stomach with large quantities of warm water provided for a very rapid absorption of this water and its speedy conveyance to the portal circulation. In some peculiarly obstinate cases it might be well to employ the iodide of potassium, and occasionally colchicum might be useful, but he would not give it in any case where there was irritability of the stomach, and it should be given cautiously. Any kind of treatment which will facilitate digestion will be beneficial in lithæmia,—any one of the recognized digestive agents may prove beneficial.

The Action of Common Salt on Pathogenic Organisms.—This question, which, apart from its more purely scientific aspect, has a very practical interest in its bearing on the extent to which the salting or “pickling” of pork and other provisions may be relied on for the destruction of the germs of disease, was taken up about a year ago by Dr. C. J. Freytag (*Zeitschr. f. Hygiene*, 1890), at the instance of Professor Förster. Dr. Freytag determined to carry out his investigation exhaustively, beginning with the pathogenic bacteria of diseases proper to domestic animals, but possibly communicable to man in the consumption of their flesh. He made use not only of pure cultures of the bacteria, but of the tissues of diseased animals—*e.g.*, the tubercular nodules found in the bodies of cattle suffering from “Perlsucht.” To imitate the conditions presented by the process of pickling, he used so much salt that a portion always remained undissolved; in gelatin cultures this had the effect of liquefying the medium, when the bacteria and the undissolved particles of salt sank to the bottom of the tube, but with those in agar the colonies were simply covered by the finely-powdered salt. At regular intervals of time fresh sowings were made from the salted cultures, and animals, kept in clean and airy cages, were inoculated from each. He insists on the fact that for many years no case of natural tuberculosis had occurred among the guinea-pigs, and only a couple of cases, more than two years ago, among the rabbits kept in the laboratory for experimental purposes. The results in each disease were as follows:—

Anthrax.—The spores, raised on sliced potatoes, were, as Koch had already shown, in no way affected by continuous exposure to the action of concentrated solution of salt for six months. Not so the vegetative forms, which were invariably killed after two hours’ steeping of the organs containing them in a concentrated solution. Although even a saturated solution failed to kill the spores, the limits under which their germination and further development were possible were prevented by 7 per cent. to 10 per cent. of salt in Löffler’s bouillon.

Typhoid.—Koch-Ebert’s bacilli, obtained from the spleen of

a man who had died from enteric fever, and grown on sliced potato and on Koch's gelatin, retained their vitality and power of development in fresh media after six months' exposure to a concentrated solution of salt.

Rothlauf, or pig scarlatina.—These bacilli, provided by Pasteur, remained unaffected after two months.

Cholera (Koch's comma-bacillus).—The growth of these was luxuriant, liquefying the entire mass of the gelatin; and the salt, when added in excess, was deposited. Sowings made from these tubes after four, six, twelve and twenty-four hours were all alike without result. Another series of experiments showed that eight hours' exposure to a saturated solution was invariably fatal to these bacilli, and that the highest concentration in which they could live was 7 per cent., but that 5 per cent. (not 2 per cent., as Uffelmann had asserted,) was required to check their growth in any perceptible degree.

Erysipelas.—No effect was produced on the cocci of this disease by an exposure to a saturated solution for two and a half months.

Staphylococci of pus resisted a like solution for five months.

Diphtheria.—The Klebs-Löffler bacillus in pure culture made from a virulent and fatal case were unaffected after three weeks in a saturated solution.

Tubercle.—Portions of the organs of a guinea-pig that had died of tubercular peritonitis, and the sputa of the same animal, were, after two or three weeks' exposure to a concentrated solution, inoculated into the abdomen of a healthy guinea-pig, which died of tuberculosis a month later. But lest this one might have been infected by the diffusion in the air of the room of the dried sputa of the other, Dr. Freytag made a fresh series of the experiments precluding such an accidental source of fallacy, and found that gelatin cultures of the bacillus were not injuriously affected by the action of concentrated solutions for three months.

Nodules of "Perlsucht," after eighteen days' immersion in brine, were used for the inoculation of rabbits with invariable success; in fact, three months' steeping, a far longer period

than is ever employed in pickling meat for human food, in no way lessened the infective power of the bacilli.

Galtier's experiments, which gave a different result, were made with the expressed juices, not with the organs or tissues themselves.

In conclusion, Dr. Freytag observes that though it might be urged that, the bacilli of anthrax being killed and the toxines assumed to be dissolved out into the brine, such flesh, if free from spores, might be eaten with safety, it would be in practice impossible to ascertain or to guarantee the absence of the spores. The question of tuberculosis is, however, of greater practical importance, on account of the frequency of the disease and the fact that much meat from animals suffering from it in different degrees finds its way into the market. Since boiling alone suffices to kill the bacilli—i.e., provided the interior of the meat be raised to that temperature—the previous pickling, as suggested by the authorities at Lyons, is superfluous, and, indeed, by inducing a false security, would be worse than useless. These experiments possess a peculiar interest for a country where the pickling of meats constitutes an important industry.—*American Journal of Medical Sciences.*

On the Local Treatment of Strangulated Hernia by Ether.—In 1882, in the *Berliner klin. Woch.*, No. 30, Dr. Finkelstein gives, from his own practice, sixty-three cases of strangulated hernia. Of these five yielded to taxis. In fifty-eight he employed "local etherization," taxis having failed, and of these fifty-four proved successful. Of the four unsuccessful cases two underwent surgical operations and two died refusing operative treatment. Since then (*Berliner klin. Woch.*, May 18, 1891), he has had numerous successful cases reported from others and six in his own practice. As he remarks himself, the number of cases is sufficiently great, and the successful results speak plainly enough to give his method a status in the practice of medicine—or, at all events, a more extended trial. The method is simplicity itself. The patient is placed on his back, with the hips slightly

raised and legs flexed, and then every ten minutes or a quarter of an hour a tablespoonful of sulphuric ether is poured on the hernia-ring and tumor. The application of ether is carried on for, as a rule, from three-quarters to three hours (or even four hours) until the tense tumor relaxes and lessens a little. As soon as this occurs, and if the strangulated bowel does not reduce itself, several slight efforts are made to reduce it, and almost "always" it slips with a gurgle and amazing ease into the belly cavity. If the omentum alone be strangulated, the ether method is absolutely useless. As the ether causes an after feeling of heat and burning on the penis, labia, etc., Dr. Koch (America) protects these and other sensitive parts by previously smearing them with olive oil, and in addition covering them with pledgets of cotton wadding. The ether seems to act thus: Richter, Velpeau and others, hold that strangulation may in some cases be caused by spasm of the abdominal orifice. In these cases the ether may act by relaxing the spasm and thus rendering the bowel movable. That may be so, our author remarks, but he himself lays most stress on the property ether has of producing intense cold by rapid evaporation. The intense cold condenses the gas in the bowel, and by so doing diminishes its calibre. Possibly, also, the cold stimulates the peripheric nerves in the bowel sheath, and excites it to natural peristaltic action, which is more likely to empty it of gas, fluid, and semifluid contents than the rude manipulations in taxis. Hence it follows the less the vitality of the bowel is impaired by taxis, the more successful will be the etherization process. The method certainly deserves a trial.—*Med. Chronicle*, July, 1891.

Atropine in Enuresis.—The following is a brief account of a trial with atropia in 12 chronic bed-wetters in the New York Infant Asylum, Mt. Vernon, N.Y.: Nine boys and three girls, the ages ranging from 4 to 10 years, were selected for treatment. It is a custom in the institution to put the children to bed at 6 o'clock and to take them up at 10 to urinate. Being desirous of testing the value of atropia, the habits of life were not changed. The plan of treatment was

that used by Dr. Wm. Perry Watson. A solution, consisting of 1 gr. sulphate atropia to 1 oz. distilled water; of this one drop was given for every year of age of the patient, at 4 and 7 p.m.; one-half of this quantity was given, however, in each case for the first few days; no unpleasant symptoms followed, and the full amount was given. Physiological symptoms were produced in three, but were unimportant. After six weeks slight improvement was noticed in four; at the end of the third month these four wet but once or twice a week. Seven were well at the end of the fifth month, rarely wetting. Treatment continued two months longer, when the dose was reduced one-half; this was given two months and stopped. It is nine months since treatment was stopped, and there has been no return of the trouble. The other five, which includes the girls, showed but slight improvement at the end of the fifth month of treatment, wetting nearly every night. During the next three months improvement was gradual, and at the end of the eighth month they wet not oftener than twice a week. During the tenth month there was only an occasional wetting. The dose was reduced one-half, and after one year of continuous treatment there was no wetting. The atropia was stopped, and there has been no return of the enuresis in six months. Eighteen months ago we had 12 chronic bed-wetters of the worst order; to-day they are well—the only medicine used was atropia, given as above.—*Archives Pediatrics*.

Indications for Intubation in Diphtheria.—Escherich (*Wiener Klin. Woch. ; Jour. Gynæcol.*) says the value of the method cannot be judged of by the percentage of cures obtained by the exclusive application of intubation or tracheotomy. The method must individually be selected for every case, and according to eventualities changed for another. Intubation can cure diphtheritic dyspnoea in a similar manner to tracheotomy. It will not do away with tracheotomy, but only replace it in a few cases. The advantages of the method are the easy *technique*, the avoidance of narcosis and wound. Its dangers consist in decubitus, “schluck pneumonie,”

cough from difficulty in the expectoration, irritation of membranes and secretion, and relatively insufficient æration of the lungs. Therefore, if the lungs and bronchial tubes are already affected, if the patients are weak naturally or from prolonged illness, or if there is sepsis, tracheotomy must be performed. The best cases for intubation are primary diphtherias of the larynx, without sepsis or collapse. In these cases, also, tracheotomy must follow as soon as the disease becomes more severe and respiration insufficient. Intubation also can be applied provisionally in case of need.

Fistula of the Duct of Steno.—Fistula of the duct of Steno may result from a variety of causes, as wounds, abscesses, calculus, and sloughing of the cheek from salivation, and other destructive forms of ulceration. After a fistula is once established, it is exceedingly difficult to cure by any of the measures ordinarily recommended in surgical works. The difficulty arises from the fact that the precedent inflammation destroys the distinctive tissue-planes of the cheek, blending them together in a continuous bond of connective tissue, in consequence of which the saliva finds its way between the edges of any approximation ordinarily practiced for closing the opening. It is this unifying of the anatomical elements of the cheek which makes the difference in the treatment of recent wounds of the duct and fistula. In the former, a neat apposition of the edges of the cut, maintained by the necessary number of interrupted sutures and the ordinary dressings, secures union, as readily as in wounds in other parts of the body. For the treatment of this form of salivary fistula, the different works on surgery repeat, for the most part, the same methods. These methods consist in paring the sides of the fistula and bringing them together by sutures; by cutting out all the tissues of the cheek, around the fistulous orifice, by an instrument closely resembling a punch, and then closing the opening by stitches; by introducing a probe, armed with a silk thread, into the duct, one end of which is to be brought out through the mouth, and the other through the cheek; again, by inserting into the duct a

grooved probe, in order that the former may be slit up, and finally by plastic operations and by cauterization. I have seen and done most of these operations without any satisfactory result, and, after failure, have succeeded in effecting a cure by a method which, as far as I know, is new, and is as effective as it is simple. Everting the cheek with the thumb on the inside and the fingers on the outside, a curved needle armed with a silk thread is carried beneath and around the duct, a short distance posterior to where it opens into the mouth, both the entrance and the exit of the needle being on the mucous surface of the mouth, and not deep enough to reach the integument of the cheek. The needle is now detached from the thread, and the ends of the latter, after being tied together, are brought out of the corner of the mouth and secured to the outside of the face by a strip of adhesive plaster. As the thread ulcerates its way through the included tissues, the duct is separated from the cheek, causing the saliva to flow into the mouth, and is quickly followed by closure of the fistulous orifice on the cheek.—D. HAYES AGNEW, *University Medical Magazine*, July, 1891.

A Cheap Disinfectant.—At this season of the year, and during the summer and autumnal months, disinfectants should be kept ready at hand for needed use, but not in any measure to take the place of cleanliness. The nitrate of lead is the cheapest disinfectant known that fulfils its intent. It does not, however, prevent putrefaction. The chloride of lead is much more effective in all directions. It is made by dissolving a small teaspoonful of nitrate of lead in a pint of boiling water; then dissolve two full teaspoonfuls of common salt in eight quarts of water. When both are thoroughly dissolved, pour the two mixtures together, and when the sediment has settled you have two gallons of clear fluid, which is the saturated solution of the chloride of lead. A pound of nitrate will make several barrels of the liquid. The nitrate of lead costs from eighteen to twenty-five cents a pound at retail.—*Monthly Bulletin*, June, 1891.

Painful Sensations in Heart Disease.—

Professor Nothnagel discusses this subject in a short paper, containing in a tabulated form the results of his investigations as recorded in his hospital case-books. He says that it is not uncommon to meet with patients complaining of painful and various unpleasant sensations in the region of the heart. If the thoracic organs are found healthy, these symptoms are usually looked upon as due to dry pleurisy, rheumatism, or intercostal neuralgia. Increased experience suggests the question, however, Why, if such is their nature, should these affections be limited to the left side, and not localized in the right half of the chest and back as well? A close relationship to the heart is indeed indicated. In some patients, markedly neurotic, subjective sensations are referred to the region of the heart, when this organ is perfectly normal. Professor Nothnagel tabulates 483 cases of valvular disease observed in six years. Here the frequency of cardiac pain differs very much with the valve affected. In disease of the aortic orifice it is much more frequent than in mitral affections, being met with most often in aortic regurgitation with stenosis of the same valve, most seldom in insufficiency of the mitral. Thus, in aortic insufficiency, painful sensations were recorded in 68 per cent. out of a total of 114 cases; in insufficiency and stenosis of the same valve in 68 per cent. On the other hand, only $7\frac{2}{3}$ per cent. of a total of 183 with regurgitation at the mitral valve had these sensations. It is interesting to observe that a combination of aortic and mitral leakage produced the symptoms in only 18 per cent. This result confirms those of other authors who have generally limited themselves to recording the so-called steno-cardial (anginose) attacks with pain usually radiating down the left arm. These statistics include, besides, less definite painful disturbances. Most authors mention the steno-cardial attack only in aortic disease, and Germain Sée states they are limited to this form of valve affection. This Nothnagel confirms generally; but he gives a case, on account of the rarity of such attacks, where the lesion was a pronounced stenosis of the mitral orifice. Other forms of painful sensation complained of are sticking,

tearing, burning, boring pain in the præcordia, which is almost continuous. Sometimes the feeling is as if the heart would be plucked out. Or paroxysms of violent pain together with sudden and severe palpitation may occur. In both cases the pain may radiate into the left side or back. Still further, there may be a feeling of a foreign body in the left chest. It is noteworthy that objective alterations of sensation may frequently be present on the skin, and not only with steno-cardial attacks but likewise in the other forms. The skin over the præcordia may be more sensitive than that of the right side, or there may be a feeling of "pins and needles," and this may extend to the left side of the thorax and back, close to the vertebral column. Firm pressure against the intercostal spaces in the cardiac region produces tenderness there, or even actual pain, and this tenderness may often be observed in the whole region of the third to the seventh intercostal nerves.—(*Zeitsch. f. klin. Medicin*, vol. xix., part 3, 1891.)

The Treatment of Severe Vomiting of Pregnancy.—Dr. Amand Routh, after alluding to the difference between the vomiting of pregnancy and the vomiting in pregnancy, noted the anxiety occasioned by severe forms of this condition, and the advantage of having an easy and efficacious mode of treatment in itself free from risk. Although it was now generally held to be reflex, and due to some local irritation at or near the os uteri internum, great difference of opinion existed as to the exact pathology and to how it was produced. The author did not think the vomiting was often secondary to displacement or incarceration, and showed that it occurred where no malposition existed, and that, even when vomiting occurred with displacement, replacement did not cure it. The treatment by drugs, accessory measures, replacement, Copeman's dilatation, local applications of cocaine, counter-irritation, etc., was reviewed, and it was shown by several cases that painting the cervix and the end of its canal with iodine paint (equal parts of iodine, iodide of potassium, spirits of wine, and water) had, in the author's hands, never once failed in the last seven years,

at once to stop the sickness, which might, however, begin to return from the fifth to the fifteenth day, when it was almost certainly permanently arrested by a second application. A prompt use of this remedy in cases threatening to become urgent would prevent the occurrence of the so-called "uncontrollable" or pernicious vomiting, which differed only in degree, and not in kind, from the milder forms. Induction of abortion would still be required when the vomiting was due to the presence *in utero* of a foreign body, such as a dead foetus or a hydatid or fleshy mole, but might otherwise, by this proposed remedy, be avoided.

Permanent Antiseptic Irrigation.—

Dr. E. von Meyer recommends this method of treating septic wounds, which he has successfully practised in Czerny's clinic during the last two years. It consists in placing the affected part in the metal tub, and keeping up constant irrigation by means of an irrigator provided with a spiral coil of perforated metallic tubing which acts as a "sprinkler." The limb is lightly covered with gauze, and suspended in the tub by broad bandages attached to hooks at the sides. The bottom of the tub is sloping so that the fluid can flow off readily through an opening connecting with a tube, which terminates in a vessel placed under the bed. The cases in which this method has been employed comprise: (1) Cases of general sepsis arising from subfascial phlegmons and septic conditions after fractures. (*a*) Cases of progressive gangrenous phlegmons, of spontaneous origin or developed after compound fractures; (*b*) septic amputation stumps after intermediate amputations and rections.

(2) Extensive lacerated and contused wounds, with marked gangrene and sepsis of the soft parts.

On the ground of the results obtained in these cases, the author presents the following indications for the employment of permanent antiseptic irrigation:

(1) In all cases of fractures and luxations attended with supuration, especially when the surrounding parts are phlegmonous and distinct signs of commencing sepsis are present.

(2) In all cases of deeply-seated progressive phlegmons in which gangrene is likely to occur.

(3) In all cases mentioned above in which resection or amputation has to be performed, owing to pronounced general septic infection, or for the treatment of septic amputation stumps.

(4) In severe contused wounds in which a conservative method of treatment is selected, as soon as the integrity of the soft parts is threatened by gangrene, and the danger of a general septic intoxication is present.

For irrigation a number of antiseptic fluids have been proposed, but the best, in the author's opinion, is a one per cent. solution of aluminium acetate. In cases of septic and phlegmonous wounds the author also makes a liberal use of iodoform, to which he assigns an important part in the disinfection of septic wounds. The gauze layer should be changed twice every day, the wound carefully inspected, and all gangrenous fragments of tissue removed, so that the antiseptic solution comes in contact with a clean surface, washes away all pus, and penetrates the tissues. The drainage tubes in the wound must be carefully watched, for they become easily plugged with fragments of necrotic tissue. Unless all these details are attended to, no success can be expected from permanent irrigation; for the fluid then flows over firmly adherent necrotic portions, beneath which abundant pus stagnates. Permanent irrigation should only be discontinued when all signs of sepsis have completely disappeared, and the wound appears perfectly cleansed.—*Deut. Zeit. für Chir.*

Influence of Bitter and Aromatic Substances on Gastric Secretion and on Digestion—The action of bitter and aromatic substances on gastric digestion has been a subject of much controversy, although their use in therapeutics has long been established. Some believe that bitters stimulate the stomach to greater secretion of albuminoids; but consider that any increase in the secretion of gastric juice resulting from their use is a pure supposition. Others, again, consider that bitters excite the function not only of the gastric glands, but also of the muscular walls of

the stomach. Prof. G. Marcone (*Riforma Medica*, June 8th, 1891) has endeavoured to settle the question on a sound physiological basis. He has studied the action of sixteen drugs belonging to the various groups of bitters, aromatics, and stimulants, and finds that all, without exception, cause increase of the secretion of gastric juice.

(1) Mixing the drug with food, prepared always in the same manner—(a) the period of digestion is shortened, (b) the quantity of gastric juice is increased, (c) the movements of the stomach are more active and more efficient, and (d) the gastric juice, increased in amount, retains its full digestive power.

(2) Introducing the drug into the empty stomach—(a) the quantity of gastric juice is increased, and (b) the juice retains undoubted digestive power. The above results were verified by control observations made with distilled water in place of drugs.

(3) In order to ascertain, if possible, whether the action above observed was of local or reflex origin, the vagi was divided in the neck previous to the introduction of the bitter substances. Under these circumstances (a) the contents of the stomach did not increase, and (b) notwithstanding an increase of acidity the digestive power of the juice was much diminished.

Marcone therefore concludes that the greater part of the effect of bitters is due to stimulation of the vagus endings in the stomach, whence by a reflex action are produced both the increased secretion and the increased peristalsis.—*Supplement British Medical Journal*.

The Gibbes-Shurley Treatment of Phthisis.—We may receive the advent of any new therapeutical system with a sceptical smile. There is certainly no branch of the healing art in which it is more easy to envelop so-called “research” with a pseudo-scientific glamour than therapeutics, to talk “physiology,” which may be, and very probably is, all wrong, but which has an erudite sound, and deeply affects the ignorant by its appearance of learning, to fix up a theory with a little physiology which will fit in—and there is always

plenty to be dug up out of "Archives," "Annals," etc., which can be manipulated easily to suit either the one side or the other of an argument—to support it with a little research—often a few ill-conducted and worse-observed "experiments"—to throw in a few bibliographical references to show that you at least appear to respect the other great luminaries who have preceded you, and then write, write, write! and never to lose an opportunity of keeping your theory before the public—in print, at societies, everywhere. True, some people will think you an unmitigated nuisance, and will even scoff at your theories and your pretensions, but others who never read your theories will keep encountering your name, and that is fame now-a-days. But "theories" fail and "systems" are found wanting, and if the feeling of scepticism in modern therapeutics has been strengthened, we have largely those to thank who should have known better than to have encouraged this by their want of judgment.

When, therefore, we read of "the value of the inhalation of chlorine gas, and the use of iodine and chloride of gold and sodium hypodermically in the treatment of pulmonary consumption," we cannot but think of the goats' blood system, the sulphuretted hydrogen system, the tuberculin and cantharidinate of potash systems, and all the rest, and we may be excused if we do not exhibit any eagerness to accept any further "systems." The originators of this line of treatment, however, both being men "above reproach," we cannot afford to dismiss any work of theirs without paying it at least the compliment of examining it.

The authors have a theory, namely, that general tuberculosis and pulmonary phthisis differ considerably, the former being a general disease in which the anatomical lesions may be found in all organs of the body, the latter with anatomical lesions principally and primarily in the respiratory apparatus. The final course of tuberculosis depends upon a destructive metabolism in which toxalbumoses are formed. The tubercle bacillus may pervade the system, but cannot germinate unless it finds suitable pabulum, and this is caseous matter only.

Phthisis pulmonalis is located in the lungs, and is an inflammatory process, ending in permanent or destructive changes of

the tissues, accompanied by deleterious chemical substances. The authors have been working with the endeavour to find something which would combine with and neutralize these toxalbumoses and arrest the disease. Chlorine gas, iodine, ammonium iodide, potassium iodide, the double salt of chloride of gold and sodium, liquor potassæ, potassium permanganate, iron arseniate, the mercurial salts, etc., will do good service in this respect. Of these, chlorine gas, iodine, and the double salt of gold and sodium chloride chemically pure and in glycerine, are by far the most efficacious.

The chlorine gas is obtained from chlorinated lime by the addition of diluted hydrochloric acid (3ss—3vi of the former to 3i—iii of the latter added slowly in a saucer and stirred). Before the gas is evolved the atmosphere should be well charged with a spray of saturated sodium chloride (about two ounces in a small compartment of 550 cubic feet). The patient should breathe through the nose and with the mouth closed, and the sittings should commence with two minutes, and be gradually increased to twenty to thirty minutes. One or two, and exceptionally three or four sittings, will be required daily.

In laryngeal and mild cases the chlorine water (U.S.P.), mixed with a saturated solution of salt ($\frac{1}{2}$, $\frac{2}{3}$, $\frac{1}{4}$) should be vaporized in from 3ss to 3ii at a sitting. In laryngeal phthisis even weaker solutions and more frequent sittings may be used with a face inhaler. These chlorine inhalations are said to prevent further caseation, and it is irrespirable unless diffused in vapour of chloride of sodium. Hypodermic injections are also made in the gluteal region, beginning with iodine, 1-12th grain daily, gradually increasing until $\frac{1}{2}$ to 1 grain is reached, then the gold and sodium may be injected daily, beginning with 1-30 to 1-20th grain, and gradually increasing to 1-5th to 1-3rd grain daily. It will be better to alternate the gold and iodine injections daily. The iodine must be discontinued if albumen appears in the urine. At first, loss of weight and increase of temperature, with excessive sweating, occur. The expectoration soon lessens and becomes watery. Asthma and anorexia may supervene, diarrhoea and dryness of the throat, and listlessness and quickening of the

pulse, when the patient is saturated. Then follows tonic reaction with disappearance of the symptoms, except anorexia. Vertigo and nausea may sometimes appear with large doses of the gold. Most patients do better on small doses. One constant feature in cases showing rapid improvement is the supervention of asthmatic symptoms. After two or three weeks these chemicals ought to be used alternately every day or every other day ; finally once or twice a week. Iodine cannot be used alone for any length of time, but the gold and sodium can.

This is the method of application of twenty-seven cases of which complete details are given. A marked retrogression of the physical signs in the chest appears to be the rule, with a diminution or absolute disappearance of the tubercle bacilli from the sputum, and a return to comparative health of the patient. To take one case, a patient with harassing cough, chest pains, debility, night sweating, and the following physical signs, "dullness over the whole of the left side, bronchial respiration, bronchophony over upper right front and back, with a small cavity in the lower portion of the left infra-clavicular region, showing cavernous respiration with gargling râles and tubercle bacilli in his sputum, right side appeared emphysematous and the percussion resonance high-pitched over the right back, with moist crackling in the right and left inter-scapular region," improved finally so as to seem "perfectly well, seldom coughs, and has no expectoration," from which we are led to infer that the physical signs in the chest had actually cleared up and the process was arrested. When we read, as we constantly do in these recorded cases, that dullness, bronchial respiration, moist crackling, etc., have entirely or almost completely disappeared under these injections, we are forced to the conclusion that the treatment is as good, and presents as great possibilities at least, as the tuberculin treatment. We also find that the laryngeal signs of tuberculosis of that organ disappear more or less completely. If we do not meet with the expression "cured" in the authors' reports, we must attribute this caution to the authors' modesty. At the same time we must always guard against "improvements," for we know full well that under every new

system, and with every new drug, it is common to find "improvement" in the condition of the patients. But it is hard to explain the retrocession of well-marked physical signs so constantly without coming to the conclusion that the injections and inhalations must exercise some obscure but favourable influence upon the local process. The authors do not append any conclusions to make any review of their work, in the report as published by them, but leave their cases to the judgment of the reader ; and taking the report as it stands, there certainly seems to be something favourable to be said for it, and at least as much as can be said for any other "system" of treatment yet devised for the "cure" of consumption. Being apparently free from the risks that attend the tuberculin experiments, it seems to us that the treatment may safely be recommended for trial. It must never be forgotten that so long as the patient's general condition keeps favourable, or improves, we may always look for cases of "cure" of laryngeal tuberculosis in a certain small proportion of cases under any treatment, or even without special treatment at all.

—*Journal of Laryngology and Rhinology.*

THE
Montreal Medical Journal.

VOL. XX.

SEPTEMBER, 1891.

No. 3.

THE BRITISH MEDICAL ASSOCIATION MEETING.

The recent meeting of the British Medical Association, held in Bournemouth, was in every respect a marked success. The attendance was good. The general discussions were of more than ordinary interest. The discussion on the effects of alcohol, introduced by the veteran physician, Dr. Wilks, of Guy's Hospital, proved to be of more than ordinary interest. Dr. Wilks is a thorough believer in the great therapeutic power of alcohol in certain acute diseases, and from the vast fund of his experience he was able to bring forward many convincing proofs of its usefulness. Drs. Drysdale and Norman Kerr, and others, took part in the discussion. Another very important discussion was that on Anæsthetics. It was opened by Dr. Lauder Brunton, who gave a resumé of the work performed by the Hyderabad Commission. One of the ablest speeches on the subject was delivered by Mr. Teale, who travelled all the way from Leeds to take a part in the discussion and to advocate the great advantages possessed by ether over chloroform as a general anæsthetic. He certainly advanced what appeared to us the most convincing proofs of this. Chloroform dies hard in England, but there can be no doubt that die it must. It is unfortunate that one of the results of the Hyderabad Commission will be the prolongation of the struggle between the two anæsthetics.

In our columns will be found full abstracts of the admirable addresses on Surgery and Medicine.

CANADIAN MEDICAL ASSOCIATION.

The next meeting of the Canadian Medical Association, which will be held in Montreal on the 16th, 17th and 18th September, 1891, promises to be of more than usual interest. Many prominent members of the profession have promised to be present and contribute papers, and although the number is by no means complete, yet, from the following appended list, the scientific interest of the next meeting is well assured:—

- The Address on Surgery—Dr. Praeger, Nanaimo, B.C.
 The Address on Medicine: "Malaria, its Relations to and Influence over other Diseases"—Dr. Bray, Chatham, Ont.
 Address on Therapeutics: "Water, Some of its Therapeutic Uses"—Dr. Spencer, Brandon, Man.
 Dr. V. P. Gibney (New York)—"Early Diagnosis, the most important factor in the Treatment of Pott's Disease of the Spine."
 Dr. John Ridlon (New York)—"Spondylitis."
 Dr. John Price (Philadelphia)—"A Plea for Early Hysterectomy."
 Dr. A. M. Phelps (New York)—"The Mechanical Treatment of Hip-joint Disease."
 Dr. A. B. Macallum (Toronto)—"The Pathology of Anæmia."
 Dr. F. Buller (Montreal)—"Functional Abnormalities of the Ocular Muscles." This paper is expected to be discussed by Drs. Stevens, Roosa and Webster (New York).
 Dr. Mullin (Hamilton, Ont.)—"Some Notes on Cases of Post-partum Hæmorrhage."
 Dr. Cotton (Cowansville, Que.)—"Appendicitis."
 Dr. Slack (Farnham, Que.)—"Surgical Cases occurring in Country Practice."
 Dr. Small (Ottawa)—"Malignant Disease of the Cervix Complicating Labour."
 Dr. W. S. Muir (Truro, N.S.)—"Graves' Disease."
 Dr. Geo. Fenwick (Montreal)—"Calculus Pyelitis."
 Dr. Shepherd (Montreal)—"Case of Strangulated Cæcal Hernia."
 Dr. Buller (Montreal)—"Conservative Surgery of the Eye."
 Dr. Jas. Bell (Montreal)—"The Local Treatment of Tuberculosis of the Bladder through a Suprapubic Incision."
 Dr. R. F. Ruttan (Montreal)—"Lead and Drinking Water."
 J. W. Stirling, M.B. (Edin.), &c., Montreal—Case: "Cerebral Abscess following Mastoiditis; Operation and Recovery."
 Dr. J. Bradford McConnell (Montreal)—Case of Suppurative Hepatitis with Jaundice from Obstruction of the Common Duct by impacted Gall-stones.

Papers have also been promised by Drs. T. Johnson-Alloway, Major, G. E. Armstrong, H. Lafleur and L. Smith (Montreal).

An entirely new, and doubtless to many, an interesting, feature of this year's meeting will be the devoting of an hour and a half each day to visiting the city hospitals. These hospitals are—Hotel Dieu, Montreal General, and Notre Dame. Members of the staff attached to these institutions have kindly undertaken to exhibit cases and present other matters of interest in connection with hospital work.

The delegates and visiting members will be tendered a dinner by the profession of Montreal, to be held in the Windsor Hotel, and arrangements are being made for an excursion should time and weather permit.

A CANADIAN MEDICAL TEMPERANCE ASSOCIATION.

It has been decided to organize a Canadian Medical Temperance Association during the month of September, while the Canadian Medical Association is holding its annual meeting in Montreal, probably the second day of the latter meeting. This Association will have no organic connection with the general Medical Association. Its objects will be to advance the practice of total abstinence in and through the medical profession, and to promote investigation as to the action of alcohol in health and disease. The liberty of members in prescribing alcohol will be entirely uncontrolled. It is hoped that all medical men who would be willing to join such an association will send at once their name and address to Dr. Evans, Montreal General Hospital, whether they are able to be present at the opening meeting or not. Similar associations already exist in the United States and Great Britain.

—At a special meeting of the Medical Board of the Montreal General Hospital, held on the 19th ult., the following resolutions were passed :—

“ That this Board records with profound sorrow the death of one of its members, Dr. Richard L. MacDonnell, and in doing so, wishes to express its deep sense of the worth and many good

qualities of their late friend and colleague, and to bear witness that this Hospital was never served by a more zealous, more conscientious, and more painstaking medical officer. His interest in his work went far beyond that of the perfunctory attendant, and showed itself in the ungrudging way in which his time was freely given both in professional attendance on the sick and also in careful attention to the hygienic condition of the Hospital and its residents. Dr. MacDonnell was both respected and beloved by the students of this Hospital, and to him the new training school for nurses owes much of its success. The members of the Board have lost an esteemed and honored *confrère*, and the Hospital a worthy officer, at an age when his useful and honorable career was only fairly entered upon.

“That the above resolution be sent, with the deepest sympathy of the Board, to the relatives of Dr. MacDonnell.”

“That this Board desires to place on record its great sorrow at the unexpected death of Dr. T. A. Rodger, one of the assistant surgeons of the Hospital. Of him, indeed, as truly as of any soldier on the field of battle, it may be said, he died in the performance of his duty. The sound knowledge and the surgical skill of Dr. Rodger made him a highly valued officer, whilst his many social qualities gave him a high place in the affections of all.

“That the respectful sympathy of this Board be hereby tendered to the family of Dr. Rodger.”

Obituary.

DR. THOMAS A. RODGER.

With renewed regret we are called upon to chronicle the death of another of our *confrères*, Dr. Thomas Anderson Rodger, well-known throughout the length and breadth of this Dominion. Dr. Rodger, in May last, contracted erysipelas through a trifling abrasion whilst attending cases in the Montreal General Hospital, of which he was one of the Assistant Surgeons. A most severe phlegmon of the neck and cheek developed in consequence, and from the latter, spite of the most assiduous care of his medical friends, came a slow pyæmia with suppurating joints, and finally pneumonia. Under this formidable malady the doctor, a very powerful man, sank and died on the 6th ultimo—a victim who perished prematurely in the performance of his duty.

Dr. Rodger was born at Beith, Scotland, in 1847, and came to Canada at 9 years of age. When quite young he was employed as clerk by Mr. J. A. Harte, the chemist and druggist, and thus acquired a desire to enter upon the study of medicine. He subsequently matriculated at McGill and graduated with much success in 1869. He was then appointed Resident Medical Officer of the Montreal General Hospital, his seniors in that position at the time being Dr. Geo. Ross and Dr. T. G. Roddick. After serving two years he established himself in Montreal, his first location being Point St. Charles, just then beginning to become populous. He soon acquired a very large practice in this busy suburb, and was looked upon as an uncommonly skilful surgeon and accoucheur. Upon the death of Dr. Scott, about seven years ago, the choice of the G. T. R. most naturally fell upon Dr. Rodger, who thus became the chief medical officer of this great corporation. Having thus close business and personal relations over the whole of Canada, Dr. Rodger was soon recognized as a fair, straight-minded, honorable man, and enjoyed a well-deserved popularity. He occupied many posts of honor and distinction in the profession; he was one of the assistant surgeons of the M. G. H., one of the representative fellows of

the University, was past-president of the Medico-Chirurgical Society of Montreal, and a member of the Medical Board of the Province of Quebec. In the latter, his sterling integrity and honesty of purpose, combined with rare social qualities, made him respected and liked by all, both French and English.

To his personal friends, the removal of "Tom" is a grievous loss. Some men belong to a type, and there seems not much difficulty in replacing them : but there has been only one "Tom Rodger."

DR. R. T. GODFREY.

It is with deep regret that we have to record the death of Dr. R. T. Godfrey of this city, at the age of seventy-two years. Dr. Godfrey was for upwards of forty years one of the leading family physicians in Montreal. His kind and genial manner endeared him to many thousands, and few deaths among the profession in this city have caused a more widespread and keener regret. For many years he occupied the position of Surgeon to the Montreal General Hospital, and for some time he was Professor of Hygiene in McGill University. For upwards of two years he has been in failing health, and recently was compelled to give up all professional work.

Medical Items.

—D. Appleton & Co., of New York, announce a Practice of Medicine by Dr. Osler as in the press.

Dr. James Stewart has been appointed Physician to the Montreal General Hospital, *vice* Dr. R. L. MacDonnell, deceased.

—Dr. Hutchinson, of Point St. Charles, Montreal, has been appointed Assistant Surgeon to the Montreal General Hospital, *vice* Dr. T. A. Rodger, deceased.

—Dr. F. G. Finley has been appointed Assistant Physician to the Montreal General Hospital.

—We are pleased to hear of the success attending the first meeting of the Maritime Medical Association, which was held in St. John, N.B., on the 22nd and 23rd of July last. The following were appointed officers : President, Hon. Dr. Parker of Halifax ; Vice-Presidents, Drs. Brown of Fredericton, Farrel of Halifax, and McLeod of Charlottetown ; Treasurer, Dr. De Witt, Halifax ; Secretary, Dr. Morrow, Halifax.

—The Congress of American Physicians and Surgeons will meet in Washington on the 22nd, 23rd, 24th and 25th of the present month, under the presidency of Dr. S. Weir Mitchell. All physicians are invited to attend the meetings of the Congress. A large number of distinguished members of the profession from the other side of the Atlantic have accepted invitations to be present, among the number being Drs. Gairdner (Glasgow) and Ord of London, Krause of Berlin, Curschmann of Leipzig, Bryant, Durham, Harrison, and Sir William MacCormac. Other eminent London surgeons will also be present.

MONTREAL MEDICAL JOURNAL

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

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OCTOBER, 1891.

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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

OCTOBER, 1891.

No. 4.

Original Communications.

ADDRESS

DELIVERED BEFORE THE CANADIAN MEDICAL ASSOCIATION,
SEPT. 16TH, 1891.

BY T. G. RODDICK, M.D., PRESIDENT.

Gentlemen,—My first duty and desire is to thank the Association for the great honour done me in appointing me to preside on this occasion. The honour is all the greater in having been conferred during my absence at the Toronto meeting last year, although it would have pleased me better had one of the older members of the Association been chosen to fill the presidential chair. I find, however, that I am rapidly reaching that stage when the term "old member" may be truthfully applied to me, because I remember well that as a student in my final year in medicine I attended the first meeting of this Association, which was held in this city in 1867, and assisted one of the secretaries in recording the proceedings. Nor can I be accused of displaying a lack of interest in the affairs of the Association, having missed comparatively few of the meetings held in the past twenty-three years.

It is not my intention on this occasion to address you in an exhaustive manner on any particular subject in medicine, because that is not the function of a president. I wish simply to give expression to a few thoughts which have occurred to me as the time approached for delivering this address.

It is a great cause for regret to the promoters and old friends

of this Association that to it honours have not come with years. The success of such an organization as this can be gauged only by the influence which it exerts and by the gradual lengthening of its roll of members. It is true that occasionally the meetings are held at a considerable distance from the great centres, when the attendance might reasonably be expected to fall below the average ; but it has been most noticeable that the last half-dozen meetings held in so-called Central Canada have been sparsely attended, and have been generally characterized by a lack of interest, which, to say the least, is disheartening to those whose desire it has been to make this a national association. I am aware that the explanation usually offered for this condition of general debility in the parent organization is the rapid and vigorous growth of the provincial associations, noticeably that of Ontario ; but I fail to find in this a good and sufficient reason. Why has the British Medical Association not shown symptoms of decay because some of its branches have grown to almost unwieldy proportions ? Can anyone suggest a stimulant that will infuse new life into this decrepit body of ours ? Are we meeting too frequently ? In answer to the last question, I am aware there has long been a feeling, especially among the profession in the Maritime Provinces, that our plan of meeting annually is a mistake. The reason for this contention on their part is not difficult to see, when we consider the vast extent of the country and the infrequent meetings held in their vicinity. Those living in the far western limits of the Dominion will have even greater reason to complain. It is a question whether the influence and usefulness of this Association would not be materially increased if the meetings were held *triennially* in some central city, as in the Capital itself. If this scheme were adopted the policy should be to encourage the growth of county and provincial associations, from which delegates would be drafted in large numbers to the federal body. Then the Dominion Medical Association would of necessity become eminently representative, and its deliberations, especially on questions of Education and State Medicine, would certainly carry more weight than at present. If this plan were decided upon the meetings could be

held in Ottawa, and in order not to tax the local profession in any way the Government might be asked to vote a small sum, say one thousand dollars, for the purpose of entertaining the delegates. I feel convinced that the members of the profession in Parliament would at any time give such a scheme their hearty support. The time has certainly arrived when a change of some kind is imperatively demanded in order to save the Association from absolute decay. It is difficult to arrive at any other conclusion when we consider that the average attendance for the past five years has been barely one hundred, while the number of licensed practitioners in the Dominion is over four thousand. I am most anxious that this subject should again receive your earnest attention, and I should be pleased to hear, after the completion of this address, a general expression of opinion regarding it. This Association should be one of the most powerful guilds existing on this continent. Its forces should be numbered by thousands, not by tens. Away, then, with local prejudices. Away with conflicting interests, and let there exist only that unity of purpose, that oneness of brotherhood which inspired the men who met here twenty-four years ago for the purpose of organizing this Association. Their idea was to follow up the grand scheme of Confederation in connection with our profession, and we shall be traitors to their memories (because the great majority of them have since passed away) if we fail to carry out their patriotic intentions.

In the name of the profession of Montreal, I extend to you a hearty welcome. Our American visitors we are pleased beyond measure to have among us, as on occasions of this kind only are we afforded an opportunity, in ever so feeble a way, of reciprocating the favours which are being constantly bestowed on us by the profession in the United States. To the delegates from the various provincial associations I would also extend a hearty welcome.

This is the fourth occasion on which you have honoured this city by your presence as an Association. You will have noticed many alterations and improvements since your last visit. Our population is now over two hundred and sixteen thousand, and

it is estimated that within another decade it will have nearly doubled. As you have passed to and fro in our streets you will doubtless have been much interested with the permanent pavement which has been laid during the past three years. One is apt to look on this sort of thing as a simple adornment or luxury, but to us it has a greater interest as a sanitary measure. It has now been demonstrated conclusively that the introduction of the permanent pavements (especially of the asphalt kind) has had much to do with lowering the sick lists and death rates of the great cities of London, Berlin and Vienna. What greater desideratum than to have animal excrement and other decomposing matter removed almost hourly from the streets during the hot season in our climate. Then when the snow has disappeared in the spring and left a refuse accumulation of months, it is satisfactory to know that this can be entirely removed over some miles of the most populous sections of the city. Our energetic City Surveyor informs me that of the one hundred and thirty-three miles of roadway which he supervises, seventeen miles will have been paved by the end of the present year, and that before three years more have passed upwards of forty miles of our streets will have been permanently covered, chiefly with asphalt. Thus in some districts will the microbe-bearing mud and dust become things of the past.

The high death-rate for which this city was notorious has decreased considerably in the past year or two. In fact, since the famous epidemic of 1885, when over three thousand of our population succumbed to small-pox, we have been becoming more healthy as a city. Nothing short of a plague will arouse some city authorities to a sense of their duty. Dr. Laberge, our very efficient and obliging Health Officer, has kindly furnished me with the following complete and interesting report of the birth-rate and death-rate per thousand of the population, as well as the number of deaths from zymotic and other diseases during the past five years:—

	1886.	1887.	1888.	1889.	1890.
Population	183,504	189,051	201,743	210,000	216,300

Births—Rate per 1,000 of Population.

French-Canadians.	54.79	55.34	54.68	52.36	51.59
Other Catholics....	45.45	31.03	30.48	28.85	27.19
Protestants.....	23.96	25.53	25.16	25.27	23.25
	<u>45.37</u>	<u>43.63</u>	<u>42.91</u>	<u>41.33</u>	<u>40.09</u>

Deaths.

	1886.	1887.	1888.	1889.	1890.
French-Canadians.	30.11	32.72	34.44	33.04	30.64
Other Catholics ...	24.02	25.51	26.70	21.57	21.42
Protestants.....	15.50	18.63	18.22	15.69	14.05
	<u>25.36</u>	<u>27.96</u>	<u>28.86</u>	<u>26.60</u>	<u>24.80</u>

	1886.	1887.	1888.	1889.	1890.
Zymotic Diseases...	1,270	1,743	1,619	1,525	1,301
Constitutional	716	695	783	789	799
Local	1,666	1,751	2,010	2,214	2,337
Developmental	847	920	1,107	917	808
Deaths by Violence.	156	177	241	152	120
	<u>4,655</u>	<u>5,286</u>	<u>5,822</u>	<u>5,588</u>	<u>5,365</u>

A brief analysis of this report is interesting. In the first place, with regard to the birth-rate, this will be noticed to have steadily diminished since 1886. In that year it was 45.37; last year it was 40.09. The fall is most marked among French-Canadians, although the Protestant showing is little better in proportion. Even this birth-rate compares most favourably with that of other countries. For instance, among native-born Canadians it is barely 17 per thousand, while that of foreign-born citizens is under 37 per thousand. The death-rate for all nationalities has been at length reduced to 24.80 per thousand. The mortality among French-Canadians, although very high, has never been so small as in 1886, being the year after the epidemic of small-pox. Doubtless the after history of all scourges would present a similar showing. To the improved system of sewage, however, is to be largely attributed any diminution in our death rate. There are now in this city one hundred and twenty-six miles of sewers. Since 1883, or in the short space of eight years, no

less than fifty-two miles of sewers have been constructed. Surely, if properly trapped and flushed, these should constitute a powerful factor in diminishing the mortality.

The Board of Health of the Province of Quebec, a very efficient body, organized some years ago by the Local Government, report an average mortality in the whole Province for the two years 1889 and 1890 of 26 per 1000. By comparison with the United States and England this is a bad showing, the former being only 18 per 1000, the latter 19 per 1000. The report from which I quote makes the statement that there are 152 parishes (being one-fourth of the total number), the average mortality of which exceeds 30 per 1000. For country places this is simply appalling. The Board attempts to explain these enormous figures as follows: "We do not hesitate to say that this mortality is due to the unhealthy state of the greater number of the cities and country-places (bad drainage, bad water supply, defective ventilation, etc.), but chiefly to the spreading of contagious diseases, against which no care is taken. Taking diphtheria for instance, we have ascertained by declarations from the clergy and by reports on hand that in 1890 no less than four thousand persons succumbed to this disease; for 1889 the figures are still higher. Add to these, deaths due to typhoid and scarlet fevers, croup, measles, and all other contagious and preventable diseases, and you may have an idea of the enormous number of lives that might have been saved if the means suggested by hygiene and experience had been made use of—i.e., proper improvement of unhealthy localities and dwellings, and, in regard to contagious diseases, the notification, isolation, and disinfection such as required by the present by-laws". In another part of this admirable report reference is made to the aid expected from the medical profession. It points out how incumbent it is on physicians, "in every case of contagious disease to which they are called, to see that the necessary notification is made, and that the other prescriptions of the by-laws, viz., isolation, quarantine, disinfection, etc., are strictly observed." The report charges the Protestant population with having no regular and systematic registration of births and deaths, and hence it

has been found impossible to prepare complete statistics for that portion of the community. If this statement be correct (and I have every reason to believe it), means should be at once taken to correct so grave an irregularity.

The growth of state medicine should ever be a cause for congratulation among us. That it is gathering strength every day is evidenced by the voluminous annual reports of our city and provincial Boards of Health, and by the marked increase in the variety and value of their contents. See, too, the large and influential gathering in London the other day, where all the nations were represented for the purpose of discussing the great problems of hygiene. At its present rate of progress, hygienic law will soon interpenetrate every phase and period of our civilized existence. The sanitarian now strikes at the very beginnings of life. In some European cities the puerperal woman is supplied with printed forms on which to record the physical condition and progress of her offspring. As the child develops his progress is attended with a constantly increased watchfulness. In the school-room he is allotted a certain number of cubic feet of space. His physical condition is zealously watched and in some places accurate anthropometrical observations are taken to show how his growth is keeping pace with his intellectual development. Then measures are taken to protect him from the contagious diseases to which he is liable, new methods of prophylaxis being constantly devised. And so he is guarded until he reaches the age of citizenship, when he may be reasonably expected to become himself a guardian of the public health. While on this subject, it has often occurred to me, and doubtless to others also, that the practice of opening our city schools on the first day of September is open to serious objection. It happens usually that the first few days of this month are hot and sultry. Children are brought directly from the health resorts to crowded school-rooms, and the consequence is, before the winter's work has well begun, the bloom of health has disappeared in many cases, and often they enter on a season of ill-health. If the children were brought home at the usual time, and given two weeks to become again acclimatized, as it were, to city life, the sick lists would, in my opinion, be much shorter.

You will be interested to know that Montreal is fast becoming a great hospital centre. Up to ten years ago all the general medicine and surgery of the city and surrounding country were looked after by the Montreal General Hospital and by the Hotel Dieu Hospital. The Western Hospital, devoted to the diseases of women, had, it is true, been in existence for some time previously. With the establishment of a branch medical faculty of Laval University just ten years ago the Notre Dame Hospital sprang into existence. The latter, which has done excellent service, has now a capacity of one hundred and twenty-five beds. The authorities of the Montreal General Hospital are now building two substantial pavilions which will accommodate about one hundred male and female surgical cases. Spacious and splendidly equipped operating rooms and an accident department will be attached. The estimated cost of this addition to the hospital is in the neighbourhood of one hundred and ten thousand dollars. One of the pavilions will be named after the late Dr. Geo. W. Campbell, who was for so many years Dean of the Medical Faculty of McGill University. Soon after the death of Dr. Campbell, his old friend and grateful patient, Sir Geo. Stephen (now Lord Mount-Stephen), handed the treasurer of the hospital the sum of fifty thousand dollars to be devoted to this purpose, with the proviso that the Professor of Surgery of McGill University should always control a certain number of beds in this pavilion. The other pavilion is called the Greenshields Building, the late Mr. David Greenshields having willed upwards of fifty thousand dollars for the purposes of hospital extension. With this increased capacity, and with the excellent system of nursing recently inaugurated, this institution may be expected to maintain its wide reputation as a clinical hospital. These are the plans kindly sent for your inspection by the architect, Mr. Hutchinson.

In July 1887, the Jubilee Year of our Gracious Majesty Queen Victoria, those large-hearted, open-handed, and withal loyal men, Lord Mount Stephen and Sir Donald Smith, wishing to commemorate this remarkable event, and to impress it indelibly on the minds of their fellow-citizens, conceived the charit-

able notion of erecting an hospital to be called the Royal Victoria Hospital. Accordingly each placed the princely sum of five hundred thousand dollars in the hands of a body of trustees, some of whom only were named by them. The city furnished the site, and one of the most experienced hospital architects in Europe, Mr. Saxon Snell, was engaged to prepare plans. The objection being made to the original site that it was in too close proximity to the reservoir, the Founders purchased an adjoining piece of land, at a cost of \$86,000, on which to erect the building, that donated by the city to be used as part of the hospital grounds. The latter will comprise in all twenty-three acres, with a frontage on Pine Avenue of 820 feet. Ground was broken on the 18th June, 1890, and the buildings are under contract to be completed in May of next year. The cost will be in the neighbourhood of \$600,000. There will be accommodation for two hundred and fifty patients, exclusive of private patients. Through the kindness of Mr. Robson, secretary of the Board of Trustees, I have secured a set of plans of the hospital, which will be open to your inspection during the meeting.

It is expected that among the many modern improvements for the cure of the sick which will be introduced into these new hospitals, proper provision will be made for baths of all descriptions. In connection with the new Hamburg Hospital which I visited last year a most elaborate system of baths has been instituted. I found patients suffering from extensive burns and septic conditions of various kinds lying immersed in weak antiseptic solutions, many of them having been there for days. In the same building arrangements are also provided for administering hot air, vapor and alkaline baths of all descriptions. So in Vienna, in connection more particularly with the skin department of the great Krankenhaus, similar arrangements are provided.

In this connection it has often occurred to me that we, as a profession on this side of the Atlantic, set too low a value on those mineral springs with which Nature has so abundantly supplied us. Patients, as a rule, are allowed to choose their own

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neighbouring Province of Ontario a somewhat similar regulation has come into force. Here the fortunate holder of a degree in Arts may obtain his medical diploma at the end of the fourth year. Others have to wait an additional year. The Council is to be congratulated on the endeavour thus made to improve the quality of the medical student. But with regard to the additional year, besides entailing hardship upon poor men, it will be lost time in the great majority of cases. In the first place, graduates of limited means who cannot afford to go abroad will have difficulty in finding practitioners willing or able to take them. The newly-fledged, even though he may not be able yet to flaunt a sheepskin, is looked upon now-a-days usually with feelings akin to horror by the staid old country doctor, to whom the new fads are unknown. The latter has a constant dread of being discounted by the new comer, and hence he would usually prefer to have no dealings with him. Thus in many cases—perhaps a majority—will this additional year be made to count for naught. It is to be hoped, therefore, that the Medical Council of Ontario will adopt other means of improving the curriculum without extending the time for medical study.

The Medical Faculty of Medical University will, in all probability, soon demand two summer sessions—one between the first and second years, the other, which has been in operation for some time, between the third and final years. The time thus spent will be practically equivalent to an additional year.

Our American neighbours are at last awaking to the great necessity for reform in the matter of medical education. Two or three of their Universities have always been in the advance guard, but the rank and file have been far in the rear. The University of Harvard and of Pennsylvania, the Jefferson Medical School, and the College of Physicians and Surgeons of New York have all recently extended their medical curriculum to four years. These will doubtless soon be followed by others throughout the Union.

Medical women have evidently come to stay. In some parts they have received a hearty welcome. In this conservative old city they were obliged to wander about for a very long time

before they found a resting-place. Why will woman not be content to abide within the lines where nature placed her? No one doubts her intellectual abilities, in fact when pitted against those of the other sex they have constantly proved superior. If women would limit their study and practice to certain subjects, more particularly midwifery, they would be welcomed to the profession, because it is quite noticeable that as specialism advances there is a constantly increasing desire amongst medical men to shirk the ordinary obstetrical practice. With well educated *maternity physicians*, as they might be called, having a thorough knowledge of the anatomy and physiology of the pelvic organs, and being well grounded in diagnosis and in the most approved antiseptic measures, even the general practitioner would soon feel that he had a helpmate of considerable value. I read an article the other day describing a number of cases of abdominal section performed by a Mrs. Dr. ——. To see a woman groping elbow deep among the entrails of another suffering sister must, indeed, be a harrowing sight.

Now, gentlemen, I would conclude this very desultory address by simply referring to the havoc done amongst us as a profession, during the past year, by the grim destroyer—Death. I may not recall the names of all those who, having once been members of this Association, have joined the majority, but I find missing from the roll-call Mackay of Woodstock, George Archer Tye, John Madill, and Edward Trenholme, Richard Lea MacDonnell, Thomas Anderson Rodger, Joseph Ricard, and Robert Townsend Godfrey, all of this city. Of these, the last named only can be said to have reached the limits of old age. Trenholme and Godfrey were among those who organized this Association, and the former was a very constant attendant. Tye was a most active member, having been local secretary and, later, vice-president for the Province of Ontario. MacDonnell and Rodger were both prominent at the meeting last year in Toronto, the one as reader of an important paper on "Cardiac Complications of Gonorrhœal Rheumatism," the other as chairman of the Surgical section. These were taken from us while still in the very prime of life. Let us cherish the memory of all, and while we

throw the mantle of charity over their faults, if any they had, let us try and emulate the many good, noble and manly qualities which were common to all.

HEREDITARY PREDISPOSITION OF NERVOUS DISEASES.*

BY A. M. McFARLANE, M.D., ASHTON, ONT.

As comparative anatomy has taught us much that is interesting and instructive on the subject of anatomy, so, likewise, I think many suggestive hints and illustrations may be gathered by the study, comparatively, of the various tissues of the body, tissues differing in their component elements, their structure, and their functions, yet, all at once, existing and impelled beneath the same natural forces that call forth, dominate, and destine all organic matter.

In approaching, therefore, the study of the nervous system, I do not wish to do so with the idea that it is that separate and distinct, special and peculiar structure, whereby an unknown medium manifests itself, but simply that it is tissue—organic tissue,—part and parcel of one harmonious organic being, subject to the same laws of existence, capable of the same stimulation and exhaustion, development and decay, as are its more subordinate associates. To me, therefore, as a physiologist, brain stands as but a tissue, and mind as the manifestation of its function—tissue most highly developed in its structure, and incomprehensible in that function.

But, looking on being in this comparative sense, we observe that in all its tissues capable of expressing function, the exhibition of such function becomes in each subservient to this one principle, viz., relationship with things external or internal. By being brought in relation with these circumstantial surroundings, impressions are received by the tissues, which, in turn, respond in their own peculiar fixed reaction. This is the power of stimulation, and may be summed up in two words—*Irritation* and

* Read before the Bathurst and Rideau Medical Association, July 15th, 1891.

Reaction. Possibly the expression of all function is dependant on this power, directly or indirectly, consciously or unconsciously.

The brain has running into its structure nerves of stimulation, viz., the nerves of the special senses. The stimulation of any one of these may arouse the brain into activity, and, with that activity, appears its function. Example: The sleeping mother is awakened by the scream of her child. The brain, in other words, is thrown into activity by the first appreciation of the special endings of the auditory nerve. The thrill is carried by the auditory nerve to the auditory centre; this centre, in turn, transmits to the cerebrum; here, by the same quiver that quickens all, that strange, unbridged chasm, that mysterious boundary between the physiological and the psychological, is spanned, consciousness is aroused; the cerebrum communicates to the motor areas, and the motor areas, through the various tracks of the brain and cord, to the muscles called upon to execute the purpose of her judgment. This is truth. Pathology has traced the course of the nerve fibres. Such, then, is the history of many actions. To the brain direct stimulation, to the muscle indirect. Many examples could be adduced, but enough is always sufficient. The special senses furnish examples of first stimulation, often merely from appreciation of circumstance. Food, drugs, etc., furnish many more; in fact, much pertaining to pathology, as well as to medicine, has its roots grounded in this principle.

Thus, then, we find man's state made up of these two factors:

- I—An impressionable, irritable mass of matter, not altogether restricted to the nervous system.
- II—Surrounding circumstances bearing influence on this matter.

Again, I say, irritation and reaction—the reactions which follow constituting the life's history of the individual. I propose, therefore, to trace what of hereditary predisposition to nervous diseases it may be possible on this occasion along these two lines of thought.

First, then, of tissue. It is not my intention to weary you with the anatomy and physiology of the brain, nor yet to enter into the hypothetical reasonings of the metaphysics of its function,

but simply to remind you that the brain is a mass of cells and nerve filaments in a homogeneous structure. It has been computed, so says Gowers, that there are upwards of 800,000,000 of these cells in the cortex of the brain alone; that these cells are all intimately connected by nerve filaments, if not directly, at least by media, and none are isolated; that these are again grouped into areas, these areas being directly connected and bearing influence the one upon the other, yet each, in that anatomical connection, meeting a corresponding functional association. That there is a material difference in function, and particularly in susceptibility, and possibly in elements within these areas, I think is evidenced by the action of drugs, certain drugs selecting certain portions of nerve-tissue and bearing influence on certain functions.

But what of the cell itself, protoplasmic, *possibly* automatic (?), irritable, susceptible, and responding to many influences. How does this compare with the amoeba (which we may observe during life activity, for we cannot observe the brain cell thus). Protoplasmic, automatic, irritable, appreciative of surroundings, seeking and assimilating food, secretory, metabolic, respiratory and reproductive. The blood, it must be noticed, performs many of these functions for the brain cell, even as the mother for the fetus. But what is there that we observe in this protoplasm? Surely the shades of preception and comprehension, scarcely the intelligence we conceive of in the concrete, yet possibly in the abstract; the accumulated intelligences of millions of such acting harmoniously together might account for the concentrated power of intelligence in man. The single cell of the battery is scarcely appreciable; the combined action of thousands burns to a crisp in the augmentation of its power. Facts go to prove this. The more brain surface, the more cells; the more cells, the more intelligence follows.

Further, I would like to point out that disturbance of function or organic state of one cell produces disturbance in possibly many others, until its wave or thrill is lost or repelled by others acting rationally. This, no doubt, is the theory of *inhibition*. Combined action of many cells may overcome the rational state

WILLIAM J. DUFFY

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even as the blood-current through the anastomosing vessels round a thrombosed artery—may cause, I say, marked eccentricities in thought and action that we must regard as irrational.

What, then, can be said of the hereditary transmission of this state. I have nothing to say of heredity in general, only this : that in all Nature the seed reproduces itself in striking likeness to its parent. But by the beautiful theory of evolution we are taught that Nature adapts herself most suitably to the existing circumstance of all time. If circumstances never changed, then we might look for perfection in Nature ; but they do change. Unhappy and untoward circumstances and illegal influences occur ; these produce error of function ; persistent error of function—if not actual disease—certainly ends therein. I shall refer to this again. These errors are not only capable of transmission by heredity in the tissues themselves, but of further propagation and rapid increase by the persistent and hereditary action of those same influences which were the first origin of disturbance.

This, then, brings us to the second thought—viz., circumstances and influences. In other words, causes acting upon this tissue already unstable through the laws of heredity. Strictly speaking I should confine myself to those influences which may be transmitted from one generation to another, under the bane of which father and son alike exist. I will divide them, however, into—I, Hereditary ; II, Occasional or Accidental. In speaking of the latter, I will merely mention some of the more important of them, as I wish to refer to them later on.

The first, and possibly the most important, hereditary influence I wish to speak of is Education or Training. As the teaching of the good mechanic is impressed upon the apprentice in the best execution of the work, so also is the mode of thought of the teacher impressed upon the pupil. We think mostly after the manner of our teaching. Apply this to the children of the irrational. Are not the eccentricities of the parent early impressed upon the child ? It is said that the disposition of the nurse may affect the after destiny of the child within the cradle. Ideler says : “ There are cases of *so-called* hereditary insanity which

can be traced, not so much to the transmission of organic disposition as to the subsequent psychical continuation of peculiarities of character, inasmuch as certain eccentricities, odd and peculiar views and maxims, have been presented to the child for imitation." Influences of this nature, transmitted by heredity from the first, are decidedly adverse to the development of a healthy nerve apparatus in harmony with the external world. Again, we know that girls predisposed by nervous temperament, being brought in contact with hysterical associates, become in turn hysterical. This may extend beyond even the predisposed. I think it is reported where whole classes of school girls have become hysterical through the influence of possibly a few associates. It can hardly be judged that all were of predisposed temperament. If this, then, be true, wherein are its bounds? Not only children born into families where nervous affections are hereditary, and where from one generation to another they are persistently under this influence, but even children born into localities where nervous diseases predominate through intermarriage or otherwise, are from the first under unfavourable hereditary circumstances. I believe this to be an alarming truth. Unless of exceedingly strong nervous temperament our associates by their training and examples certainly influence us. Many of us have early derived our religious principles and political hallucinations from this source. Can, then, function disorder be aroused by imitation? If so, then actual disease may be its sequence and disastrous termination under circumstances favourable for its further development.

The next hereditary influence we will notice is rationality. Under this we must regard climate, religious creed, form of government, public morality at large, previous lot or social standing, and degree of civilization. It is impossible, on this occasion, to refer to all in detail, but I must refer briefly to modern civilization. Guistain says: "The present state of society in Europe and America keeps up a general half intoxicating state of cerebral irritation which is far removed from a natural and healthy condition—thus many become insane." Greisinger also says: "I would rather coincide with the opinion

of most medical psychologists that the increase of insanity in recent times is real, and quite in accordance with the relations of modern society." What he says of insanity is no doubt true of most nervous affections. The too rapid change in existing conditions toward excessive activity above that which Nature for ages has adopted has probably a powerful influence on the disturbance of function, and finally the production of disease.

Locality may be classed as an hereditary cause, but of minor importance. Still, many nervous diseases, as asthma, hysteria, and even insanity, are often much benefited by change of locality and surroundings—a change which possibly might have more influence on *hereditary* insanity than is at present conceived. I refer to possibilities of ultimate improvement by the alteration of those hereditary causes which tend to perpetuate the disease—close intermarriage under the restrictions of hereditary laws, such as the Jews, Quakers, and even the aristocracy.

Chronic diseases, in so far as they are hereditary, by sapping the resisting forces, may be hereditary causes. I will speak of phthisis in this respect again.

II. *Occasional or Accidental Causes.*—Such are social position, employments (some callings are markedly exempt, while others are as markedly productive, as prostitution), age, sex, celibacy, bodily condition or constitution, bad habits, as drunkenness, masturbation, etc., overwork, anxiety, grief, disgrace, and many others that I cannot even mention here. Yet there is one more that I must make special reference to before closing, viz., intermarriage among families already predisposed.

I will make my statistics brief, because I am not fond of statistics unless in verification of argument. There is considerable variance—Burrows finding hereditary traces in six-sevenths of his cases of insanity; Moreau in nine-tenths; Bergmann in one-fifth direct, one-third direct and indirect; Hagen, in 187 cases direct from father and mother, in one-eighth to one-seventh, indirect in one-third; Martini had in 25 years, amongst the higher ranks, three-tenths (nearly one-third), amongst the middle and labouring classes something over one-fourth; Esquirol found it in the poor in more than one-fourth, in the rich in about three-

fifths ; Guislain in over one-fourth his cases ; Brierre in almost one-half ; Webster, in Bedlam, about one-third ; Skae (Edinburgh), in 248 cases, a little over one-third ; Bini, in Florence, in about one-fourth. The main evidence then seems to be, that of all cases presented at the asylum, hereditary predisposition is manifest in from one-fourth to one-third of the cases. In private practice I am satisfied the percentage would be much higher, from more accurate and reliable information of family history. These statistics, moreover, refer only to the insane, and do not include that great mass of beings whose mental eccentricities—proclivities towards crime, drunkenness, and extravagance of ideas and actions—we must regard, if not as insane, at least as irrational, and to be traced as directly to hereditary transmission as is insanity. This latter would extend the field of hereditary predisposition far beyond that in the above statistics. The error here in the proper comprehension of the magnitude of this evil is, that in these statistics we have been tracing the ancestors of certain cases presented at the asylum, whereas I should prefer rather to trace their progeny, and watch therein the vast amount of evidence of hereditary transmission, believing that thereby we shall obtain much more satisfactory evidence on this subject. With this object in view, I intend now to present to you a few of my own observations along this line.

Within the field of my practice there are at least five families who have afforded me all manner of nervous diseases, from acute insanity down to the simple neuralgias. These families have, on the whole, been exceedingly reproductive. I propose to take up the history of one of the most prolific, as giving the most reliable evidence. I have prepared two genealogical trees, which I shall now pass round. The first is a general outline of the family. In the second, I wish particularly to call your attention to an example of error in marriage by persons already predisposed, and its terrible results. I have not entered into the special pathological states on these charts, because I do not think it necessary or wise to do so.

Of the heads of this family I have been unable to obtain any history. They left five sons, who all came to this country and

settled in my vicinity. Through the descendants of each of these sons, as shown on the chart, there is, here and there, breaking out manifestations of that hereditary condition we have been considering; but the one branch in particular to which I wish to point your attention is the third son, who committed suicide at the age of 58, and whose whole family present such an unstable mental state. This son married a Miss C., in whose family also there is marked evidence of an hereditary taint. By this lady's brother there were two sons, both of whom are peculiarly eccentric. In the elder son's family the most marked features are dullness of intellect and peculiarity of ideas. In the second son's family it is much more marked. One idiot (who died last summer); one girl and one boy silly, the girl exceedingly so; one girl and one boy peculiar; three boys and one girl fairly up to average, the latter being children. From the members of such a family this man, who afterwards himself suicided, selected his wife and entered into wedlock. With what results? Six sons and four daughters. Of these it can be said only one was truly rational, and she died young of phthisis. One son and one daughter died in the asylum; another son sojourned there for a number of years—he is now at home, harmless, but nevertheless insane. Two other sons, I have been repeatedly informed by their wives and families, will have to be removed, as their lives are in jeopardy, suffering from hallucinations, sleeping with axes beneath their beds, watching for imaginary enemies, and at times exceedingly abusive of those around them. The two other brothers are following much in the footsteps of their elders, and at their ages will not, in all probability, be one iota more rational. The two other sisters are said to be odd, but I have never seen either of them myself. But the trouble does not end here. Every one of these ten children, except the youngest, married and have offspring. It is impossible for me here to trace their history, I will refer you to the chart; suffice it to say that they are the victims of all manner of nervous affections. They are still young, so that the evil cannot yet well be calculated.

The first point I will call your attention to on the general

history is the diversified character of these affections. Greisinger has pointed out as follows: "We do well not to conceive of a family predisposition to mental disease *as limited to these alone*, but rather to consider it as a predisposition to serious cerebral and nervous diseases generally. It is not at all rare to see in a family certain members suffering from insanity, others from epilepsy, severe spinal irritation, hysteria, neuralgia, etc." Rush relates the case of a mechanic who had two severe attacks of insanity, the latter ending his life. ' His six children all suffered from severe headaches, but none presented the least traces of insanity. The mother may have been healthy, yet, although the predisposition was there, it manifested itself in entirely another form. Greisinger says: "In many cases we notice that this disposition seems to be able to manifest itself in many and various forms; occasionally, even, we see through several generations pathological states of the nervous system which gradually increase, and finally end by passing into insanity proper." Not only is this fact evident, but also that persons in earlier life, at first afflicted with epilepsy, hysteria, neuralgia, etc., later on gradually develop into that much more deplorable condition—viz., insanity. The history of this family itself has furnished not a few examples of this fact. This is the persistent disturbance of function ending in disease referred to further back. This, then, might point out the fact that if insanity, as Greisinger has remarked, may be developed from minor nervous affections, gradually increasing in succeeding generations, then in preparing statistics on the hereditary predisposition of insanity, we must not confine it to those ancestors who alone exhibited signs of insanity, but also extend it to those in whom manifestations of various other mental and nervous affections beforetime existed. The complete escape of some members, also the earlier manifestation in some than possibly even the parent, has been attributed to differences of circumstances bearing upon them.

The next point I would call attention to is sex. Baillarger has shown by statistics of 453 cases that insanity is more frequently transmitted by the mother than by the father. He found

also that when the mother was insane, more of the children became so, and further, that while insanity is as frequently transmitted from the mother to the son as from the father, it is twice as frequently transmitted to the daughter. In the history of this family the opposite might appear to be the case, the fathers transmitting the disease. There is an evident flaw, however, in the history presented, because of the fact that the sons remained the tillers of their father's farms, while the daughters married and took their departure, in so far at least that I have been unable to trace them in the time allotted for this paper. Again, the disease being transmitted as directly from father to son as from mother to son, we cannot wonder at this result, when we consider, moreover, that, with probably the one exception, the mothers were of better stock; had the opposite been the case, we might have looked for twice the amount of insanity in the females and equal in the males.

You will notice on the chart that quite a number have died of phthisis. The connection between phthisis and nervous diseases, especially epilepsy, has been followed out with some persistence in order to trace an affinity, but with very little results, if any, owing to the great prevalence of phthisis.

Drunkenness has been most frequent in this family. Whether we are to regard this fact as a species of mental weakness or not I cannot say. Gowers says: "Intemperance is possibly also due in many cases to a neuropathic disposition, but is so common among the poor that its existence can hardly be taken as evidence of disease."

The children of parents actually suffering from mental derangements, or even drunkenness, at the time of conception, are more frequently affected. Greisinger says: "It appears, nevertheless, that hereditary influences may be highly and quickly increased by drunkenness, by disease, and, in short, by various intercurrent disorders of the parent at the time of conception."

In reference to the transmission of predisposition to crime, suicide, etc., Greisinger states the following: "Experience has frequently shown that the inclination to suicide, which often comes on in all members of a family at the same age, communi-

cates itself by hereditary descent. We will also easily comprehend how that weakness of character and excessive passionateness, which by hereditary tendency is so frequently shown, may, by the co-operation of unfavorable circumstances on individuals so affected, beget criminal actions. In like manner we occasionally see in certain families insanity, suicide, crime, the result of the intimate connection of certain dispositions of character combined with each other, alternating in a deeply deplorable manner."

There is but one other point I shall take up, and that is the intermarriage within families wherein this disposition exists. I would call your particular attention to this point. On the second chart I have shown the terrible results of such a marriage. To-day, amid these families, and even among the members of the same family root, many such are occurring; complete ignorance seems to reign as to the baneful influences that are to follow. That such alliances should be not only tolerated, but legalized by law, is most lamentable. In the *Chronicles of Scotland*, translated by John Bellander in A.D. 1536, is found the following: "He that was troublet with the fallin evil, or fallin daft, or harand sic infirmite as succeedis be heritage fra the fader to the son was geldit that his infected blude suld spread na firther; the woman that was fallin lepper or had any infection was banist fra the company o' men, and gif she consavit bairne under sic infirmite baith she and her bairne were buryit quick." This, no doubt, was a good and reliable remedy, but rather harsh treatment to be considered at the present day. In Denmark, however, it has become more recently a matter of legislative interference, and justly so, when we consider that the mind alone is responsible for the actions of the individual. Unsound minds produce unsafe citizens; the production of such minds is productive of injury to the state and unsafety to its citizens, which it is the first principle of every government to protect. We tax the Chinaman while we legalize by marriage laws the propagation of worse. Government has erected vast institutions at vast expense for the safe-keeping of such; I will extend it beyond asylums and include jails and penitentiaries, because I am considerably of the opinion that in the majority of crimes it is the

result of faulty reasoning, misguided force, the erroneous conceptions of unhealthy nerve tissue mostly inherited. I would again refer you to Greisinger's remarks on the hereditary predisposition to crime.

Government, however, has not and possibly will not interfere for years to come, and to-day insanity is proportionately on the increase. In Greisinger's works I find the following: "It has been said that the numbers of the insane in England have increased nine-fold within the last twenty years (Buchnill and Tuke, *Psychol. Med.*). Naturally neither the population nor the civilization has increased in this proportion. We can speak of instances of much smaller increase; for example, in Wurtemberg, in twenty-one years, the number of the insane have increased from 1 in 1500 to 1 in 948." While Government professes to regulate matters of matrimony by law—even consanguinity—why not proceed further, and weed out a root of possibly as great, if not greater, immediate evil than that of consanguinity in marriage. Still, though Government is proceeding to deal with the effects rather than the cause, and though it is beyond our power as a profession to arrest such a gigantic mischief, still, I say, let us feel thankful, remembering the old adage, "Be thankful for small mercies," let us thank God for the plan whereby such prolific unfortunates cannot fecundate themselves. The Almighty mind in this fact might prompt men as to the necessity of restriction upon the conditions of wedlock. That nervous predisposition can be weeded out of our midst I think is a settled problem; Greisinger says: "Hereditary disposition is more frequent where marriage takes place among a limited number of families, or even in the same families; on the other hand, transmission is diminished by constant crossing with strange blood." Again, further on he says, "The disposition may disappear by constantly renewing the blood by marriage with healthy families; it is increased and developed to the most degenerate forms by further intermarriage, by drunkenness of fathers, etc."

APPENDICITIS.*

BY C. L. COTTON, M.D., COWANSVILLE, QUE.

The attention of the profession has been directed with considerable interest during the last few years towards that old and not too well understood disease—inflammation of the appendix vermiformis. As several cases have fallen under my care during the past six months, it occurred to me that it might prove of interest to this meeting to hear a few notes of these cases, and perhaps help to elucidate some of the peculiarities of the disease. I shall apply the modern name of appendicitis to all these cases. Whether they all originated in the appendix, or whether the cæcum may have been the starting point, I am unable to say, as, fortunately, I have not yet had an opportunity of making an autopsy on any of them.

My *first* case occurred in a strong, robust farmer, J. B., aged 42, who had enjoyed good health with the exception of an occasional attack of sciatica in the right leg. He first felt pain on rising from bed on April 30th. He described it as being in the right iliac region, and as more of a dragging nature than very acute. The pain continued during that day and the two following days. On the morning of April 2nd, the third day since the onset of the pain, he took a dose of Epsom salts, which acted very freely. He had continued about his work during this time, but on the evening of this day, while milking, he was seized with a very severe pain, and with great difficulty managed to get into the house and on the bed. I was sent for at midnight, when I found him suffering intensely with pain in the right iliac region shooting down into the testicle, which was retracted. There was extreme tenderness over the site of the pain; a full dose of morphia relieved him, and he got a little sleep. In the morning he vomited several times, probably from the morphia. Temperature 100°; pulse 60. On the second day a fulness was noticeable in the right iliac region, which gradually developed into a distinct tumour. During the following week the case pursued the usual course of a localized peritonitis. The tempera-

* Read before the Canadian Medical Association, at Montreal, September, 1891.

ture did not exceed 100° . The pulse was constantly slow, from 55 to 60. Constipation was marked; relieved with glycerine enemata. After the third day there was complete retention of urine. During the first few days opiates were required to relieve the pain, but this became more moderate as the tumour enlarged. A slight chill occurred on May 8th. On the 15th of May, the sixteenth day from the first symptoms of pain, the general condition was as follows: There was a large, tense tumour occupying the entire region from the crest of the ilium to the middle line and below to Poupart's ligament, reaching nearly to the ribs above; not very tender. No fluctuation could be discovered. I explored with a hypodermic needle and found pus. With the assistance of Dr. Gibson I opened the abscess. A few minims of cocaine were injected in the part where the incision was to be made. An incision about two inches long, parallel with Poupart's ligament, was made over the centre of the tumor down to the fascia transversalis; then with a bistoury a free incision was made into the abscess cavity, about half an inch in length. A very free discharge of extremely fætid pus followed. I inserted a large drainage tube to the bottom of the cavity and dressed with sublimate gauze. The after treatment consisted in washing the abscess cavity with a weak carbolic solution daily, continuing the drainage tube and plenty of absorbent dressing. Quinine and whiskey and strong liquid nourishment. The pain entirely disappeared after the operation. The discharge was very free during the first few days, gradually diminishing. On the sixth day I removed the drainage tube permanently, and the wound closed rapidly. He passed urine naturally the second day after the operation. Convalescence was slow. He got out about the house the middle of June, and on the 1st of July he drove seven miles to my office. Later he did good work in the hay-field, and now feels as well as ever.

The *second* case was almost a duplicate of the first. F. H., a rather delicate-looking lad of 14, but with a history of general good health, was seized with a severe pain in the stomach and vomiting on the 14th June, quite suddenly while at dinner. The pain continuing, I saw him two days later, on the 16th, when I

found him complaining of general abdominal pain, with tenderness over the epigastrium and the right iliac region. Pulse 120; temperature 102°. Ordered poultices and Dover's powder sufficiently often to relieve the pain. On the following day the tenderness was confined to the right iliac region. There was no constipation nor retention of urine. The bowels acted naturally throughout the whole course of the case. During the following days a marked fulness developed in the right iliac region, though not such a marked tumour as in the previous case. Slight tympanites was present. Periodical attacks of pain, requiring the frequent use of opiates. Pulse from 110 to 120; temperature from 101° to 102°. On the 22nd I explored the region and found pus. On the 23rd, which was the ninth day from the first symptoms, I gave chloroform and opened the abscess in the same way as in the former case. The abscess was more deeply situated. The discharge was very free and of the same extremely fætid character. All the symptoms improved immediately. The temperature became normal, pulse dropped, pain all disappeared, and the appetite improved. I found it necessary to continue the use of the drainage tube for nearly four weeks, gradually diminishing the size. The patient made a very good convalescence, and is now in good health.

The *third* case occurred in a man, J. H., 36 years of age, a miller by trade. During the past spring he received a severe strain in the muscles of the right side, which caused him much pain. On the 2nd of August, when in a heated condition, he took a cold shower bath from an improvised arrangement in his mill. He felt very much chilled immediately afterwards, and had a severe headache. During the following night he felt dull, heavy pains in his stomach and chest, which he thought was due to a fit of indigestion. The pains increased in severity and extended into his bowels. I saw him the following day, the 3rd of August. He was then suffering from general abdominal pains, most marked in the epigastrium. A moderate degree of general abdominal tenderness. Pulse normal; temperature slightly elevated. Ordered tr. opii in sufficient doses to control pain and hot fomentations. During the following week the



symptoms gradually developed into a localized inflammation in the right iliac fossa. The tenderness, though noticeable all over the abdomen, was more marked in that region, and dulness on percussion slowly developed. The temperature ranged from normal to 101° , and the pulse from 70 to 110. After the second day he required the regular use of the catheter. About the sixth day a decided fulness was noticeable in the right iliac region, and the tenderness became more localized there. On the seventh and eighth day this was more marked, but there was no distinctly outlined tumour. The fullness and dulness were very low, near the groin, and more towards the median line. On the 11th August, the ninth day from the seizure, I explored with a hypodermic needle about two inches above the pubes and one inch to the right of the median line, and got half a syringe-ful of the same foul-smelling pus that I was becoming familiar with. I was not then prepared to operate, but visited my patient the following day intending to do so. And here I found my mistake in not being prepared to operate as soon as I discovered the pus. On examining him I found a change. The dulness had disappeared and there was no sign to indicate the presence of an abscess. To convince myself, I introduced the needle of a hypodermic syringe in the same region and only got a drop or two of blood. As the patient was feeling better, the abscess had evidently not ruptured into the peritoneal cavity. On examining the urine, I found that it contained a large quantity of pus. Here was the explanation. The pus had made its way through the walls of the bladder. All the symptoms improved, as in the former cases, after the abscesses had been opened. During the following days the urine was full of pus and the general symptoms improved. The third day after the rupture of the abscess he passed urine without the aid of the catheter. The quantity of pus gradually diminished and the patient gained strength. I saw him last on the 12th September, and found him walking about the yard feeling very well, the urine still containing traces of pus, particularly in the morning.

The *fourth* and last case that I have to report occurred in a boy 3 years of age. About four weeks previous to the seizure

he had a severe fall on the abdomen, which was followed by vomiting all the afternoon. From that time he had frequent days of feeling poorly, though previously a very healthy child. On the 26th August he was suddenly seized with severe vomiting, which continued for twenty-four hours. Saw him on the morning of the 27th. He was still vomiting at frequent intervals. Pulse 110 ; temperature 102°. Nothing further very definite. Under small doses of calomel the vomiting ceased. There was obstinate constipation, which was relieved after the use of several enemata. Examined the abdomen carefully and discovered decided tenderness over the cæcum. This condition continued during the following ten days without much change. Pulse was about 120 ; temperature from 100° to 101°. The tenderness over the right side increased ; tympanites developed. The right iliac region was hard and tense, but not completely dull, more the feeling of tension of the abdominal muscles. The region was fuller than the opposite side. Had to keep him constantly under the influence of opiates. His bowels acted naturally and he took milk well. On September 4th, the ninth day from the seizure, thinking that there must be suppuration going on, I explored the region that appeared most dull with a hypodermic needle, but failed to discover pus. On the following day a sharp diarrhoea set in of a most offensive character. On examining the discharges, they were composed of mixed fæcal matter and pus, some of them being nothing but pus with shreds of broken-down tissue. This abscess was apparently deeply situated, and did not make its way to the surface, probably opening into the cæcum on its posterior side. The tenderness soon disappeared and the pain was gone in twenty-four hours. The diarrhoea continued for four or five days, the pus diminishing in amount until the discharges became entirely fæcal in character.

Sept. 15th.—The little patient has been sitting up for the last two days, and shows signs of rapid improvement. The action of the bowels is quite natural, no abdominal tenderness remaining.

As these cases carry with them their own lessons, I will make no further observations about them.

NOTES OF THREE CASES OF PLACENTA PRÆVIA.

BY ALBERT G. ALLEN, M.D.

(Read before the Bathurst and Rideau Medical Association.)

That complication of labour known as placenta prævia, and the hemorrhages which are the result of the placenta occupying such abnormal position, have always formed a most fruitful theme for discussion. The reason why the placenta assumes such a site, the causes of escape of the blood, nature's efforts to arrest such, and the proper treatment, have all been the subjects of endless controversy. It is a subject, too, whose importance amply justifies the attention paid to it, for from that as from no other obstetric complication is there apt to arise such sudden and dangerous effects, and requiring such prompt scientific treatment. The comparative frequency of these cases—one in every thousand and it is stated—is sufficient to provide most obstetricians with all the practical experience in its dangers that they desire.

Not so much, then, with the desire to throw more light upon this subject do I bring before your notice notes of these three cases that have happened before me within a brief period of time, as with the hope that such may evoke a discussion that will supply us younger practitioners with much information as to how these cases can be best handled.

Fortunately for me, my first case had recovered from all immediate danger before my arrival. Having been hastily summoned at 2 A.M., Feb. 24th, 1890, I found the patient lying in an apparently exhausted state. The bed, much to my surprise, was fairly soaked with blood, which overflowed to a large extent upon the floor. An examination revealed the placenta lying in the vagina, and behind it the child's head presenting normally. The placenta was at once extracted, forceps applied, and child delivered as rapidly as possible. The hemorrhage having ceased, and the mother being easy, attention was directed for the next few minutes to the child, which had been asphyxiated by the lengthened withdrawal of its sustenance, and when success had crowned these efforts to revive it, an opportunity was given to enquire into the previous history of the case. The patient was

a multipara, this being her sixth confinement. About a month previous she had had a slight hemorrhage, attributed then to a fall, and which was easily recovered from. No other hemorrhage took place until labor set in on the evening of Feb. 23rd, when on and off during the progress of the labour copious quantities of blood escaped. The physician engaged for the case was summoned at 10 P.M., but doubtless failing to detect any abnormal state of affairs, and deeming the second stage of labour yet some hours off, assured the patient that the hemorrhage was not alarming, and took his departure after giving orders to be summoned when the pains got stronger. A call to the country, however, supervened, and thus the case fell into my hands. As the dilatation of the os had proceeded, the flow of blood became more alarming, but did not bring about a fatal result before the separation of the placenta had been complete. The fact that it had been pushed ahead of the child instead of being wedged to one side led me to think it a case of placenta prævia centralis. Running my finger around the interior of the womb just above the os a roughness all round was revealed, which further convinced me. The mother made a rather slow convalescence, as might have been expected. The child lived for five months and then succumbed to marasmus.

Case No. 2.—Multipara, second pregnancy; patient aged 25. Lost first child at seven months, and afterwards suffered from antelexion, for which she had been treated in Detroit. Reposition of the womb was followed by pregnancy, and patient came home to have her confinement. Her first hemorrhage, on Oct. 4th, was attributed to not having recovered from the effects of the long journey eastward. Had another severe hemorrhage three weeks later, when I was called in. Suspicions of placenta prævia were sustained by the examination. Owing to the relaxation of the os, produced by the loss of blood, the fingers entered easily, and detected the upper aperture of the cervix entirely covered with a thick boggy mass. Dr. Dumble saw the patient with me a few hours afterward, but by that time the os had contracted again, and his opinion that it was a case of placenta prævia marginalis was mainly formed from the thickened and spongy feeling

of the posterior portion of the womb. The immediate induction of labour was advised, owing to the constant danger the patient otherwise would be in, but both she and her husband demurred as labour was not expected for another month, and both were extremely anxious that the family might be further augmented. I was not summoned again until three weeks later, when with some slight pains a most alarming hemorrhage had taken place. Blood was still oozing from a partially dilated os. Plugging was immediately resorted to and delivery determined upon. The tampons were changed every four or five hours, each time the vagina being carefully cleansed of all clots and then tightly re-packed with borated cotton. Uterine action was further excited by firm abdominal pressure, with occasional friction over the uterus. After twenty-eight hours of patience the os was found sufficiently dilated to permit the hand to enter. The placenta was found completely encircling the os, so the hand was gently insinuated along one side, between it and the uterus, breaking down the attachments as it proceeded. The membranes were next penetrated, hand pressed on up into the womb, a foot grasped and brought down with the still gushing waters. Version was easily accomplished, but the subsequent deliverance of the child was slow and tedious, the head being very large. However, this was at last accomplished, the placenta having become entirely detached in the meantime and following the head right up. This child was also asphyxiated, and though prolonged efforts were made to resuscitate it, they were without avail, and the hopes of the parents were again blasted.

Case No. 3.—Multipara; strong, healthy woman of about 35. Eighth pregnancy; all previous ones normal. I was called in on May 22nd, 1891, and found labour in its initial stage. No history, as far as could be ascertained, of any previous hemorrhages. Examination revealed a slightly dilated os, apparently filled with the soft spongy mass of placenta. Diagnosis, placenta prævia centralis; but subsequent events disclosed the fact that a space of about one-third of the circumference of the os and the segment of womb above it were free from placenta. The pains at this time were very feeble and the loss of blood slight,

but as a precaution the vagina was packed with cotton, and orders left to be summoned when the pains got stronger. On arrival, six hours later, found the tampon expelled, the os fully dilated, and copious hemorrhage accompanying the pains. I attempted to turn by the bipolar method, but, whether owing to an excusable impatience or not, I did not succeed, and so delivered upon the podalic method once more. Nature, however, anticipated me, for just as I was about to rupture the membranes and proceed in the routine way they burst themselves, and with the force of the same pain the head was pressed well down past the placenta into the cavity of the pelvis. The full expulsion of the child was also accomplished rapidly, two more pains sufficing. Though the placenta had not been completely detached the child did not give that familiar evidence of its being alive, and required a few minutes of artificial respiration to revive it. The placenta, with the membranes intact, came away very shortly afterwards. The loss of blood in this case, on the whole, was not very great, and convalescence was achieved quite as soon as if the labour had been normal.

Such are my notes. I have only to add that all three were conducted without the administration of ergot. The question in my mind is whether they could have been handled more successfully by using that drug. Playfair places the mortality at about $4\frac{1}{2}$ per cent. in the cases of the mother, and at about 60 per cent. with the children.

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

BY FRANCIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.

Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Inguinal Colotomy.—Of late years this operation has almost superseded that in the lumbar region, although lumbar colotomy was considered to be a most satisfactory and successful operation, and the objections which have been recently made to it are chiefly theoretical. It cannot be denied, however, that inguinal colotomy is a very simple operation, and gives good results; the situation of the artificial anus, also, is more convenient than when in the lumbar region. In both operations the important point is to make the opening into the bowel in such a way that fæces cannot pass beyond to the rectum, and this is more easily done in the inguinal operation, because there the bowel can, owing to extent of meso-colon, be easily drawn out and fixed *in situ*. Mr. F. T. Paul (*British Medical Journal*, July 18th, 1891) says the inguinal operation is undoubtedly easier to perform than the lumbar, but it has a source of danger from which the other is free, and that is the danger of allowing fæcal discharge to bathe a wound directly communicating with the peritoneal cavity, hence it is the custom to delay opening the bowel until adhesion has taken place between it and the wound. Mr. Paul accomplishes this by a new method. It is as follows: The sigmoid flexure is withdrawn from the inguinal wound, the bowel divided in the middle, and the distal end invaginated, as in Senn's operation, and returned into the abdominal cavity. Into the upper or proximal end a glass-tube, an inch in diameter, is tied, its fore end being attached to a rubber tube to convey the fæcal discharge away from the wound. This piece of bowel is sewn to the edges of the wound by green catgut, sutures passing through its musculo-serous coats, and the rest of the wound closed with the same. Thus about two inches of bowel projects beyond the wound, which is then dressed with iodoform and salicylic wool. Three cases are reported in which this procedure was successfully carried out.

The objection to this operation is the fact that it is very difficult, nay often impossible, to tell which is the proximal and which the distal end of the bowel.

Dr. Landow of Göttingen (*Centralblatt f. Chir.*, No. 30, 1891) describes this abnormal condition of the sigmoid flexure, and considers that it would contraindicate the practice advocated by Madelung of stitching up the lower opening after complete division of the gut, and allowing the lower detached end to fall into the pelvis. In two cases of inguinal colotomy recently observed in the Göttingen clinic, where the usual practice is to divide the gut and to stitch the two open ends to the abdominal wound, it was noticed that the discharge of *faeces* always took place from the lower and not from the upper opening, although at the time of the operation the lower portion of gut was traced downwards towards the bladder and the upper portion in the reverse direction. In one of these cases, which terminated fatally, it was found at the necropsy that the sigmoid flexure, which was very long and freely movable, passed upwards and outwards as far as the splenic flexure, and then turned downwards and towards the middle line, reaching the rectum after a long and tortuous course. The division of the gut having been made in the ascending portion, what was supposed to be the distal opening was that nearest the *cæcum*, whilst the supposed upper opening corresponded with the divided end of the elongated and contorted sigmoid flexure—(Quoted in *Supplement of British Medical Journal*, Aug. 15th, 1891.)

Intestinal Anastomosis by means of a Vegetable Plate.—Dr. Robt. H. M. Dawbarn of New York (*N. Y. Med. Record*, June 27th, 1891) announces that he has discovered a new plate easily obtained and thoroughly to be depended upon for intestinal anastomosis. It is made from the raw potato. He has experimented on a large number of dogs with complete success. A pair of potato plates can be made by his method in two minutes. The material is always on hand; it has no tendency to swell; it is rigid, and remains so longer than the majority of materials advised for this purpose. For employment on the human being the plates should be about one-third of an inch

thick, and should be cut long so that the opening is twice the normal diameter of the gut to be operated upon. The threads used should be very coarse, and the needle, before passing through the plate, should pierce a scrap of rubber drainage tube or small piece of cloth, which prevents the knot tied or end of the threads from pulling through. Instead of first making an incision through the gut, the plate should be inserted into the lumen of the bowel through its divided end, and the needles are made to pierce the gut wall at the proper positions. When two plates are placed in the two extremities of the bowel, at least two inches from the cut end, the corresponding threads of the two plates are tied together, thus bringing into apposition the two peritoneal surfaces covering the plates, which have been previously well scraped with a knife so that adhesion may promptly take place. When the threads are tied, at least one line of sutures should be run around the plates, great care being taken not to pass the needle into the lumen of the bowel. The author uses the basting stitch, because it is easy to apply. As yet, when the plates are in apposition there is no opening in the bowel; this is now made, first by introducing a strip of wood into one of the open canals of the gut, and into the other open end of the gut a knife is inserted and the opening in the apposed intestines made by cutting on the strip of wood previously inserted. Water should now be introduced, and should run freely from one cut end of the gut to the other through the recently made opening at the site of the apposed potato plates. The strip of wood is withdrawn, the free ends of the bowel scraped, inverted and closed by a double line of running sutures.

Cæcal Hernia.—This rare form of hernia, when it occurs, is very rarely strangulated, but Mr. Stephen Paget (*Lancet*, April 25th, 1891), reports three cases which he met with in three months. All occurred in male infants under a year old. In all three cases there was a complete hernial sac. The operation succeeded in the two first, but in the third the bowel was found to be gangrenous, so an artificial anus was made, but the child (aged three months) died six weeks after of marasmus.

Mr. Paget draws attention to two symptoms in this form of

Chronic Prostatitis.—Dr. Oberlaender of Dresden (*Journal of Cutaneous and Genito-Urinary Diseases*, July, 1891) says that of chronic inflammations of the prostate, the most frequent is the so-called “old man’s hypertrophy.” But there are other forms of prostatitis which occur earlier in life. The patient may have suffered from gonorrhœa, but in about half the number of cases excesses of various kinds and masturbation seem to be the causes, especially in association with a predisposition to catarrh of the mucous membranes. The local trouble caused by prostatitis may be slight, consisting in burning pain on micturition, especially after errors of diet, occasionally increased urgency in the desire to urinate, but most frequently these patients suffer from a very disagreeable nervous weakness of sexual power. Erections are diminished and ejaculation is often premature, and after coitus there is great bodily and mental exhaustion. Very often the latter symptoms are the only ones complained of. Should the prostate be examined per anum, more or less irregularity and enlargement will be found. The swelling is seldom hard, and as a rule only one lobe is affected. Here and there are separate painful spots, and the patients complain of painful pressure in the rectum. By the urethroscope decided disease of the posterior urethra can always be made out; the mucous membrane is of a red colour, bleeds easily, is soft, and covered with granulation-like and papillomatous growths. In the more chronic cases the membrane is smooth and shiny, and yellowish-white in colour. The treatment should consist in removal to the seaside or the mountains, or residence in a well-managed institution, with careful attention to diet and regulation of the bowels. Locally, iodoform suppositories containing three-quarters of a grain to one and a half grains each should be used after clearing out the contents of the rectum by means of an enema. In some persons the iodoform may give rise to symptoms of intoxication. In addition to this, a one or two per cent. solution of nitrate of silver should be applied to the posterior urethra once or twice a week. The introduction of metal sounds and Winternitz’s psychrophore are also frequently beneficial. The affection is very liable to relapse. When it follows gonorrhœa

it is most easily cured. The worst cases are those in persons predisposed to mucous catarrh.

Dr. E. L. Keyes, in a paper entitled *Some Practical Suggestions for Deep Urethral Medication in the Treatment of Posterior Urethral Catarrh* (*N. Y. Med. Record*, July 2, '91), says gleet is not a disease; it is really an insignificant matter, and must be classed with the little miseries of life, like shift-buttons, corns, a mother-in-law, a wrinkled stocking, or a cross in hopeless love. He meets with many cases that have already been cut anteriorly with very little or no result. The fact of the existence of a posterior urethritis has not been recognized. Where there is a posterior urethritis, the quantity of pus lying in the urethra behind the bulbo-membranous junction is disproportionately great when compared with the amount of gleet discharge that appears at the meatus. When pus forms in front of the triangular ligament it readily and promptly reaches the meatus, but when it forms behind the bulbo-membranous junction it more readily takes the opposite courses, flowing backward into the prostatic sinus and the bladder. When, therefore, a case of gleet is examined, if the urethra be milked by firm pressure with the finger from the perineum forward until all the pus is squeezed out, and then the patient be instructed to urinate in two glasses, that passed into the first glass will be found to contain a quantity of pus disproportionately great when compared with what has flowed out or been milked out of the urethra before micturition.

Dr. Keyes admits that these cases of posterior urethritis may get well without local treatment, by balsams, alkalis, iron, change of air, etc., but he claims that most cases are suitable for local treatment, and get well rapidly under its use. Some cases, however, local treatment does not agree with, cases which are tubercular, and even some simple inflammatory cases. In the local treatment he uses a syringe founded on Ulzmann's model, with only one minute opening at its tip. The tip need be inserted just within the hole in the triangular ligament immediately beyond the bulbo-membranous junction; twenty minims or more may be gently thrown in, and the entire injection will flow back-

ward along the membranous urethra, through the prostate into the bladder. Dr. Keyes now uses milder injections and in larger quantities. He has used many substances as injections, but he has now come to rely on four substances, viz., sulphate of thallin, sulphate of copper, nitrate of silver, and glycerole of tannin. The *sulphate of thallin* is used with water in the strength of three per cent., rising gradually to six, nine and twelve per cent.; it is very bland and produces no discomfort. *Sulphate of copper* is used in a ten per cent. solution with glycerine; this is diluted with water for use, commencing with one grain to the ounce, and increasing rapidly if the effect is good to forty-eight grains to the ounce. *Nitrate silver* is employed as a ten per cent. solution, but he rarely uses it except in cases of acute gonorrhoeal cystitis, when copper and tannin fail; in ordinary cases he commences with the strength of one grain to the ounce, and very seldom goes beyond ten. This is the harshest of all applications, and causes most pain. *Glycerole of tannin* is used by adding water seventy-five, fifty or twenty-five per cent., and it is employed where a more astringent influence is aimed at than that produced by the copper solution.

Nerve Suture.—Dittel (*Wiener klin. Woch.*, Jahr. IV., No. 18) reports a successful case of plastic operation upon the ulnar nerve, although there was a considerable loss of its continuity. The patient received a severe wound of the arm, which, together with extensive injury to the skin and muscles, destroyed about two and a half inches of the ulnar nerve. The peripheral end of the nerve could not be found. The wound was closed with antiseptic precautions. Next day it was found that sensibility of parts supplied by the ulnar nerve was unimpaired, and that there was but slight loss of muscular power. Contraction could be induced, however, by no form of current four weeks after, so operation was at once undertaken. By careful dissection the proximal and peripheral ends of the nerves were exposed. About three inches from the extremity of the peripheral nerve end a thin-bladed scalpel was thrust directly through the nerve trunk, and the nerve trunk was thus split into two equal halves, the incision being stopped short before reaching the extremity of the

nerve. The proximal end was split in a similar manner. By transverse cuts the nerve was freed and carried upwards from the distal end and downwards from the proximal end, until the extremities of the split ends were brought in contact. Sutures were then applied. To cover the defect of the soft parts made by the original injury, a flap of skin was transplanted from the upper arm. The wound suppurated. Ten weeks after the operation the muscles reacted to electricity, and at the time of the report contractions could be excited, not only by the application of the current to the muscles, but also by excitation of the nerve trunk.

In the same journal, Brennor reports a successful case of nerve suture ten years after injury of the nerve. The patient had received a stab-wound ten years before, on the flexor surface of the wrist-joint. The scar lay directly over the course of the median nerve, and beneath it was a knot the size of a cherry, which often caused great pain. There was flexion of the index and middle surfaces, and their palmar surfaces with the ulnar surface of the thumb were completely anæsthetic. Operation was decided upon. The tumour was dissected out, and it was found attached to the extremity of the proximal portion of the median nerve. It was divided from its connection and the nerve found to be healthy; the distal end was then looked for and found, and the nerves were brought together in the same way as that described in Dittel's case. The wound was closed and healed by primary union. Two weeks after operation there was return of sensibility; a year later sensibility was completely normal, and there was no more contraction of the fingers. The trophic disturbance, as manifested by the deformed and thickened nails, however, did not disappear.—(Quoted in *American Journal Med. Sciences*, Sept. 1891.)

This method of replacing lost nerve tissue is very ingenious, and seems to act remarkably well where the amount of nerve destroyed is great. In the lesser cases, by dissecting the nerve ends freely from the tissue in which they are imbedded, and flexing the arm, a considerable space may be made up. The writer has recently sutured the musculo-spinal in one case,

divided seven months before by a pistol ball; and in another case, all the nerves of the brachial plexus in a boy, divided some six months before in the axilla. The accident was caused by falling on glass. The results in these cases will in due time be reported.

Treatment of Surgical Tuberculosis.—At the recent meeting of the British Medical Association, held in Bournemouth, July 1891, much attention was directed to the treatment of surgical tuberculosis. Dr. Ward Cousins, in the address before the section of surgery, indicated some of the improvements which have taken place in the treatment of tuberculous joints during the past few years, and traced this progress to the influence of recent advances in pathology. He pointed out that in the early stages of articular disease the diagnosis may be open to question, and threatening symptoms may be traced to traumatic causes. He is an advocate of early operative interference in cases of articular tuberculosis. Dr. Ward Cousins referred to recorded instances of partial arthrectomy near the neck of the femur and the upper extremity of the tibia, in which carious cavities had been exposed and small sequestra successfully removed. Complete arthrectomy he was not much in favor of, the results of inquiries showing that in most cases the operation had resulted in either firm ankylosis or in weak limbs and joints, with tendency to serious flexion and displacement.

Mr. Watson Cheyne read a paper on *Tuberculin in Relation to Surgical Tuberculous Diseases*; it is the report of a careful and prolonged investigation. He first deals with the beneficial effects and hurtful action of tuberculin. He says we have in this fluid a substance which, though it professes some remedial properties, exposes the patient to risks of grave importance. Its hurtful action "in many cases outweighs its good effects to such an extent as to lead to its abandonment or preclude its employment." The constitutional reactions caused by the early injections are sometimes so severe as to leave the patient in a worse condition than before; the local reactions often lead to serious inflammatory complications, and in a tuberculous lung may set up pneumonia, which is not only dangerous in itself, but

may also aid in the spread of the original disease. Again, when sepsis is present, tuberculin seems to favor the spread of this morbid condition and to excite grave septic troubles. Another objection advanced by Mr. Cheyne is that the fluid not only fails to produce immunity, but actually, in many cases, apparently predisposes the body to the tuberculous infection. Notwithstanding all these objections, Mr. Cheyne does not despair of the future of tuberculin. He hoped that some method would be found for isolating the remedial element of the fluid and of eliminating such elements as are hurtful. Dr. William Hunter has been engaged in this work, and some results have been obtained. Dr. Hunter considers tuberculin to consist of three substances of the nature of albuminoses, alkaloidal substances, and extractives. With the first of these the remedial and inflammatory actions of the fluid are connected, whilst the fever-producing properties are chiefly associated with the substances of a non-albuminous nature. These investigations are not yet completed, but Dr. Hunter has succeeded in eliminating the fever-producing substance, and has obtained a modification "capable of inducing very distinct local improvement unattended by fever and still more markedly accompanied by scarcely any noticeable inflammatory reaction." The prospect of this treatment by modified lymph, Mr. Cheyne thinks, will always, in surgical cases, take a secondary place to the more rapid and thorough operative measure, but he holds the outlook as to results will be more hopeful in medicine.—(*Brit. Med. Jour.*, Aug. 8.)

Therapeutics of Erysipelas.—The antiseptic treatment of erysipelas has of late years been a favourite method with the Germans. Gottstein holds that although antiseptics dissolved in fat lose their activity, yet corrosive sublimate in combination with lanolin preserves its disinfecting properties. He relates a case of erysipelas treated with sublimated lanolin. The patient, a woman aged 56, had high fever and severe general symptoms, such as delirium. The next day there was erysipelas of the right side of the face and a temperature of 103° . The sublimated lanolin was energetically applied, and the next day the temperature was 100.5° and the erysipelas subsiding. On the

third day the temperature rose again to 102.3° , owing to involvement of the scalp. On the fourth day the temperature fell to 97.4° , and convalescence began. Patient was out of bed in eight days from beginning of attack. — (*Therapeutische Monatsch.*, April 1891.)

Wiring of the Vertebrae as a means of Immobilization in Potts' Disease.—Dr. B. E. Hadra, of Galveston, Texas, has reported (*Times and Register*, May 1891) a case of fracture of the vertebrae treated by wiring the spinous processes together, and he suggests this procedure as a means of immobilization for the treatment of tubercular spondylitis. *Operation.*—A long skin incision, the centre of which should be over the seat of fracture, is made; next, the muscles on either side of the spinous processes are lifted up and drawn aside with blunt instruments, but not more than to allow one to feel the contours of the bones. Then a stout curved needle, armed with wire, is carried through the interspace between the spinous processes of the vertebrae, brought out and entered at the space next below, and brought out on the other side; re-entered in the space below, carried round the spinous processes of the vertebrae, and again carried through the middle interspace, meeting the wire where it entered. The ends are now twisted into a knot. In fact, it is really a figure-of-8 around the spaces of the vertebrae. He would employ this method in spondylitis for these reasons: the disease is almost invariably located in the vertebral bodies, and usually on or near their anterior surfaces; the processes, laminae, arches and articular facets are invariably healthy; nearly all the mechanical means employed to immobilize the spine aim by indirect leverage to transfer the superimposed weight from the vertebral bodies to the articular facets where it is well borne. In Dr. Hadra's procedure the weight is transferred to the same articular facets, but the leverage is direct, and the immobilization ought therefore to be more perfect. It is questionable, notwithstanding its theoretical advantages, if this method will ever become popular with parents whilst non-operative procedures are so successful.—(Quoted in *N. Y. Medical Record*, Aug. 8, '91.)

Surgery of the Cauda Equina.—Dr. Leopold Laquer (*Neurologisches Centralblatt*) describes a case of compression of the

cauda equina that came under his notice in September 1888. The patient complained of much pain in the sacrum, and was unable either to sit or to lie down with any comfort. In December 1889 there was an exaggeration of the previous symptoms, with marked alteration in motion and sensation, as well as some atrophy of the lower extremities. The electrical reactions of both muscles and nerves were normal, and the reflexes were normal. Despite all treatment the symptoms increased, and in September 1890 the patient could hardly move about and held his back in an attitude of extreme kyphosis. On the right side the patellar reflex was abolished, and the left side was weak. There was no sensation in scrotum, perineum or lower extremities. There was some atrophy of the quadriceps, but no ataxia or trophic changes. The diagnosis was compression of the cauda equina, with degenerative neuritis. Dr. Louis Rehen cut down on the sacrum, and laying open the whole canal disclosed a small extra-dural tumor in the middle of its lumen. On examination this tumour proved to be a lymphangioma cavernosum. Recovery was prompt; by the end of the second week after operation the patient was free from pain and sleep was natural. Four months after the patient was able to go about, holding his body in the natural position, with functions nearly restored.—(Quoted in *N. Y. Med. Jour.*, July 1891.)

Senn's Method of Employing Decalcified Bone-filling.—At the meeting of the Ontario Medical Association, held last June, Dr. Senn thus describes his method of bone-filling:

“In operating in any case of necrosis or bone inflammation the operation must be very thorough. We must expose the cavity, and use a chisel—a trephine is useless, and may be looked upon as obsolete in bone surgery. When the whole cavity is exposed, sequestra are removed and the inner lining of the cavity scraped away with a sharp spoon or round chisel until all affected tissue is removed. Now prepare the cavity for packing by chemically disinfecting it with chloride of zinc solution or, better, peroxide of hydrogen; the latter permeates more deeply. Then irrigate with perchloride of mercury; dust with iodoform, and now pack in the chips. (These chips are kept stored in ethereal solution of iodoform, five per cent., ready for use.) After packing, the

periosteum is stitched over it, because we must see that the chips are surrounded on all sides with healthy living tissue. In cases in which we obtain an antiseptic condition of the parts, we find that granulation tissue is soon substituted for the chips. Many erroneously believe that the chips are used for the permanent replacement of the lost bone, but this is not so; the bone is replaced by granulation tissue first of all, an early definitive healing takes place, and eventually regeneration of the entire bone.—(*Canadian Practitioner*, June 16, 1891.)

The Curative Effects of Operations per se.—Dr. J. W. White of Philadelphia, in a paper on the above subject (*Annals of Surgery*, August and September 1891), comes to the following conclusions :—

(1) There are large numbers of cases of different grades of severity and varying character which seem to be benefited by operation alone, some of them by almost any operation.

(2) These cases include chiefly epilepsy, certain abdominal tumours and peritoneal effusions, and tubercle, though the improvement in the latter is to be explained on general principle.

(3) Of the possible factors which, by reason of their constancy, must be considered, anæsthesia seems most likely to have been effective. The other three—viz., psychical influence, relief of tension, reflex action—may enter in varying degrees into the therapeutics of these cases, and, taken together, serve to render the occurrence of occasional cures less mysterious.

(4) The theory of accident or coincidence scarcely explains the facts satisfactorily.

The Correction of Angular Deformities of the Nose by a Subcutaneous Operation.—Dr. John O. Roe, of Rochester, N. Y., has an interesting paper on the above subject with excellent illustrations. (*N. Y. Med. Record*, July 18, 1891.) His method is as follows : After anæsthetizing the part with cocaine, both by applying it to the interior of the nostril and by injecting some under the skin with a hypodermic syringe, a lineal incision is made completely through the upper wall of the left nostril, just in front of the nasal bone, between it and the upper lateral cartilage of the nostril, to the under side of the skin. This incision

should be widened laterally from the insertion of the upper border of the triangular cartilage, half way down the side of the nose, until a sufficiently large opening is made to permit free introduction of instruments. The skin is then raised from the bridge of the nose over the region where the operation is to be performed. Now a pair of angular bone forceps is introduced from below, and the projecting piece of bone cut off in such a way as to make the top of the nose perfectly straight and smooth. The operation should be done with the strictest antiseptic precautions. After completion of the operation, iodoform is blown through the opening over every portion of wounded surface. The skin is then allowed to drop back upon the bridge of the nose, and by strapping it down with gentle pressure the wound should heal without the slightest formation of pus and very little soreness.

There is no reason now why everyone should not have beautiful noses. The crooked ones are straightened and Roman beaks made into delicate Grecians. Certainly, according to the published photo-engravings of before and after operation, the results in Dr. Roe's cases are simply perfect.

Surgery of the Stomach.—Dr. Torras has made a study of the statistics of resection of the pylorus during the years between 1880 and 1890. (*Revista de Medicina y Cirurgia Practicas*, No. 350, 1891.) From this it appears that in 1880 there was one extirpation, followed by death. In 1881, out of 20 in whom resection was performed there were 15 deaths and 5 recoveries;

in 1882, 16 cases with 13 deaths

1883,	13	"	"	7	"
1884,	8	"	"	5	"
1885,	5	"	"	3	"
1886,	3	"	"	1	"
1887,	2	"	"	0	"
1888,	1	"	"	0	"
1889,	1	"	"	0	"
1890,	2	"	"	0	"

In all, 51 cases with 29 deaths—a very good showing considering the great severity and danger of the operation. The statis-

tics show that the operation is performed so frequently now as when first introduced, and when performed the cases are better selected, and hence more favourable results. Dr. Torras says though most of those stated to be cured by the operation have survived above five years, yet they cannot yet be regarded as quite out of danger. Dr. Torras would confine the operation to cases of simple stenosis of the pylorus, contraction of the orifice from cicatrices or fibrous tumours, or for the extraction of foreign bodies from the stomach.—(*Medical Recorder*, March 1891.)

Gastrostomy for Impassable Stricture of the Cardiac End of the Esophagus; Recovery and subsequent dilatation of the Stricture.—Dr. Weir of New York reports the above case. (*N. Y. Med. Record*, July 25th, 1891.) The patient was 59 years of age, and had been in fairly good health until the beginning of 1890, when in one day he had two hemorrhages, vomited by the mouth. Nothing was passed per rectum. After this his gastric and intestinal functions were rather irregular. In June 1890 he had another severe hemorrhage, and in August the first symptoms of difficulty of deglutition presented themselves, and soon well marked evidences of stricture appeared near the stomach end of the gullet. The stricture gradually grew worse until bougies could no longer be passed. He declined operation at first, but finally consented. The operation was performed on Dec. 16th, 1890. An incision (Hacker's) $3\frac{1}{2}$ inches long, beginning one inch below the ensiform cartilage and the same distance to the left of the median line. As soon as the rectus muscle was exposed its fibres were separated by a director and held aside, the fascia and peritoneum divided nearly the whole length of the wound, and a small fold of the stomach drawn out through the wound and transfixed with a headless gold pin; the ends of the pin rested across the wound in the skin, and the pin pierced the whole thickness of the stomach. The parietal peritoneum was sutured to the edges of the wound and the opening of the stomach deferred until adhesions should take place. Antiseptic dressings were applied, the line of sutures being covered with iodoform collodion. Owing to the patient having become much weaker the stomach was opened on the

third day by cutting down on the pin with a tenotome; two small vessels spurting, requiring clamping. The mucous membrane was seized and pulled out, and fastened by silk sutures to the skin. A No. 16 elastic catheter just fitted the opening when completed. He was now fed through the catheter, and the feeding repeated every six hours. The tube was kept in continuously and gave rise after ten days to considerable irritation. Scheimpflug's balloon catheters were used, but found not durable enough, so rubber tubing was substituted and changed every ten days to two weeks, the muscular action of the rectus abdominis being found amply sufficient to preserve control of the stomach contents. Four weeks after operation, the patient being in good condition, the stricture was treated. On the first trial a fine whalebone bougie was passed into the stomach, larger ones were passed later, and soon the largest size fine conical bougies were easily passed. The patient soon fed by the mouth, and the tube was removed from the stomach; and when the last report was received, June 15th, 1891, the fistula had nearly closed and patient's condition was steadily improving.

Resection of the Stomach for Ulceration.—Dr. Mayde presented before the Royal Medical Society of Vienna in April last a patient on whom he had excised the stomach for a tumour which was diagnosed as carcinoma, but on examination proved to be due to a cicatrix following ulceration. There were the scars of three large ulcers, and there was an invagination of the pyloric end of the stomach into the duodenum. The reader of the paper stated that up to that time there had been 120 resections of the stomach, with 63 per cent. of deaths. Twenty-four operations had been performed for ulcer, with the result of over 42 per cent. of deaths.—(*La Semaine Médicale*, Avril 22, '91.)

New Method of Establishing a Gastric Fistula in Gastrotomy.—Dr. Oscar Witzel of Bonn describes a new method for forming a gastric fistula (*Centralblatt für Chir.*, Aug. 8, 1891) which will prevent the escape of gastric juice, which in many instances causes so much trouble after this operation. The object of this procedure is to establish a canal formed by stitching together the free borders of two parallel folds of the exposed wall

of the stomach. This canal extends obliquely from the right downwards to the left, where it communicates with a small opening made into the interior of the stomach, and an arrangement is thus established which resembles the lower extremity of the ureter as it passes into the bladder. It is necessary to draw a large extent of the anterior wall of the stomach through the external wound. This is easily done by prolonged traction when the stomach is empty. Two parallel folds, as mentioned above, are then taken up, the free margins of which are brought together by three or four Lembert's sutures and by numerous ordinary sutures over a flexible tube the thickness of a lead pencil. The lower end of this tube is inserted into the stomach by a small opening, whilst the upper projects from the external wound. The canal thus formed is left exposed at the bottom of the wound, when the stomach is fixed by sutures to the margin of the external incision. This modification does not change any in the steps of the operation. In exposing the stomach Witzel exposes the sheath of the rectus by an incision made parallel to, and at a distance of a finger's-breadth from, the margin of the ribs, then he separates the fibres of the muscle in a vertical direction, and incises the transversalis obliquely from above downwards and from right to left. The division of the rectus thus crosses the wounds made through the skin and transversalis muscle. Witzel has operated in the manner above described on two patients, and is well satisfied with the results. The valvular action was excellent.—(*Supplement to British Medical Journal*, Sept. 5th, 1891.)

Society Proceedings.

CANADIAN MEDICAL ASSOCIATION.

Twenty-fourth Annual Meeting, held in Montreal, Sept. 16, 17 & 18.

The past President, Dr. Jas. Ross (Toronto), took the chair at 10 A.M., and called the meeting to order.

Dr. Ross introduced Dr. Hingston, chairman of the Committee of Arrangements, who welcomed the visitors and drew attention to the new feature of visiting the city hospitals.

The minutes of the last meeting having been read and confirmed, the President (Dr. Roddick) took the chair and formally opened the meeting.

Past presidents Drs. Hingston and Geo. Ross, and the delegates from the New Brunswick Medical Society (Dr. J. Christie and Dr. Daniels of St. John), were invited to seats upon the platform.

Letters of regret were read by the Secretary from Drs. Jos. Workman, Osler, Spencer (Brandon, Man.), Higginson (Rat Portage), G. Bantock (London, Eng.), and Muir (Truro).

Mr. Thomas Bryant, of London, Eng., was introduced, and invited to take a seat on the platform.

The Nominating Committee was then appointed:—Drs. Praeger (Nanaimo), Chown (Winnipeg), Malloch (Hamilton), Taylor (Goderich), McKeough (Chatham), Thorburn (Toronto), Powell and Wright (Ottawa), Lachapelle, Armstrong and J. Stewart (Montreal), and Christie (St. John).

The following were then duly proposed and seconded, and elected members of this Association:—

R. C. Kirkpatrick, Montreal.	J. H. B. Allen, Montreal.
J. D. Thorburn, Toronto.	K. Cameron, “
A. L. Shanks, Howick.	J. A. Springlie, “
— Conerty, Winchester, O.	E. H. Blackader, “
C. W. Haentchell, Mattawa, O.	— Proulx, “
M. A. McFarlane, Ashton, O.	— Foucher, “
C. L. Easton, Smith's Falls.	— Laforest, “
A. E. Porter, Prince Albert, Sas.	— Chartier, “
J. R. Clouston, Huntingdon, Q.	— Delorme, “
— Long, Escanaba, Mich.	— Fortier, “
R. M. Canfield, Stanstead, Q.	L. Laberge, “
J. H. Bell, Montreal.	P. Brennan, “
A. W. Gardner, Montreal.	D. Harwood, “
J. C. Shanks, “	J. J. White, “
J. G. McCarthy, “	G. G. Campbell, “

J. L. Foley,	Montreal.	J. E. Molson,	Montreal.
R. Campbell,	"	A. Schmidt,	"
I. A. Brown,	"	D. DeCow,	"
F. E. Devlin,	"	D. A. Muirhead,	"
J. A. Lockhart,	"	W. J. Telfer,	"
A. D. Stewart,	"	H. H. Marceau,	"
W. G. Stewart,	"	W. A. Farwell,	"
J. McBain,	"	W. de Moulpied,	Hemmingford, Q.
A. E. Vipond,	"	E. Chevalier,	Bedford, Q.
J. M. Jack,	"		

The meeting then adjourned to the Hotel Dieu, where, after partaking of lunch, the members were conducted through the buildings of the hospital, and there several cases of interest were demonstrated by members of the staff.

AFTERNOON SESSION.

The meeting being called to order by the President,

Dr. Bray (Chatham) then read the address in Medicine, entitled "Malaria, its Relation to and Influence over other Diseases." Discussed by Drs. Christie and Jas. Ross.

Dr. Barbour (Edinburgh, Scotland) was then introduced and invited to a seat on the platform.

Dr. W. Gardner read his paper, "Pregnancy with Ovarian Tumour: three Ovariectomies." Discussed by Drs. Barbour, Alloway, L. Smith, Sloan and Ruttan.

DR. A. L. SMITH said that on account of the frequent association of pregnancy and undiagnosed ovarian cysts and pus tubes, he would particularly caution all accoucheurs to handle the uterus gently after labour and during expulsion of the placenta, for fear of rupturing these diseased structures and thus setting up a septic peritonitis. The rough handling (so-called "expression") was generally quite unnecessary, as the placenta will usually come away of itself if given time. But should the accident happen, and peritonitis develop, no time should be lost in palliative treatment, but laparotomy should be at once resorted to, and thus many valuable lives would be saved. In fact it was the only chance of saving the woman, and if done early enough was a good one. He had himself had two deaths in five hundred confinements, and both were due to a septic peritonitis. In one of them he strongly suspected this accident had happened, as the patient had to be artificially delivered, and he was confident an early operation would have saved her.

Dr. V. P. Gibney (New York) then read his paper, "Early Diagnosis, the most important factor in the Treatment of Hip-joint Disease."

Discussion.

DR. A. M. PHELPS (New York)—We can congratulate ourselves on having heard such an able paper as Dr. Gibney has given us. In the main I agree with him. I do not, however, use steel braces, because they are difficult to make and fit, and then they are, in my opinion, no better than the plaster-of-Paris or wood corset. The Taylor brace acts only as an antero-posterior splint, and cannot possibly hold the diseased spine if the sides of the vertebræ have been destroyed, thus producing the lateral curvature which so often complicates cases of Potts' disease. An early diagnosis is all important. In young children complaining of abdominal and thoracic pain, accompanied by rigidity of the spinal column and pain on flexion, Potts' disease should always be suspected. Movements of the body while the child is sitting will bring out rigidity of the spine if Potts' disease is present; the child on its back will also hold the spine rigid when the head is raised by the hand. No brace can be adjusted to a child under three years of age which will support the spine, and such cases should be treated by extension in a Sayre's wire cuirass or a plaster-of-Paris bed.

DR. SHEPHERD emphasized the necessity of careful examination of all these cases. He drew attention to the difficulty of an early diagnosis; and yet this is the very thing which the general practitioner has to grapple with, so that it is small wonder if he sometimes overlooks it. The gait of the patient often tells us what is wrong; and a few days' rest and extension may clear up a doubtful case.

DR. BELL favoured plaster-of-Paris supports in preference to steel braces.

The PRESIDENT agreed with the previous speakers as to the necessity of careful examination, and for this he considered Sayre's method the best—that is, to place the child face downwards across the knees, then widening the knees and pressing down on the child's back, when any tender points will be brought

out. He favoured light braces in young patients and in the early stages of the disease, because the weight of the plaster-of-Paris jacket was often too much for children.

Dr. Foucher (Montreal) read his paper, "A Contribution to the Etiology of Dacryocystitis."

DR. BULLER drew attention to the fact that while constitutional affections play an important part in the etiology of this affection (dacryocystitis), still the main factor in most cases was of a purely local character. Occasionally, but not often, simple conjunctivitis was a cause of it. Another cause was the toxic effects of such irritant drugs as jequirity, applied for granular ophthalmia, although this disease is not in itself a cause. One curious example of this disease the speaker had often seen, but had never heard satisfactorily explained, and that was its appearance in neonati. It was usually confined to one eye, and tended to spontaneous cure, though the case was apt to be very tedious.

The meeting then adjourned, many members availing themselves of the kind invitation of the President of the Electrical Association to visit the Electrical Exhibition, then in progress.

EVENING SESSION.

The chair was taken by Dr. Jas. Ross (Toronto) at 8.30.

The President then delivered his interesting address. (See page 241.) Discussion upon the address was postponed until Thursday morning.

Moved by Dr. Bray, seconded by Dr. J. Christie, that the President be tendered a vote of thanks for his able address. Carried.

The Secretary then read an invitation from Sir William Dawson to the members of the Association to visit the Redpath Museum.

An invitation from the Secretary of the Board of Governors of the Royal Victoria Hospital was read, in which the members were invited to inspect the buildings of this institution.

Dr. Phelps (New York) then read his paper on "The Mechanical Treatment of Hip-joint Disease."

Discussion.

MR. THOS. BRYANT said that he quite agreed with the prin-

ciples laid down by the reader of the paper. He did not believe that immobility of a joint would produce ankylosis, because among the Chinese, where frequently a limb would be tied up from childhood, the joints in such cases are found perfect. The muscles become wasted and the limb consequently useless. When the seat of the trouble is in the bone, which has become chronically inflamed, treatment will cure it; but when it is situated in the synovial membrane, the disease is usually tubercular. For this information we have to thank our friend Dr. Koch. In this latter case the disease goes on steadily in spite of treatment. Thus we can explain why in one case the treatment succeeds and fails in another. This is also the reason why it is difficult to divide the disease into stages, or to prophesy results with any degree of accuracy. When a man says he has a case in the first or second stage of the disease, I want to know what he means, which form of the disease is he dealing with. However, in the later stages, when the joint becomes disorganised, we can tell pretty well what we will find. The bone is then not capable of recovery. The part is dead and must be exfoliated and removed. We may then either excise a portion of the bone or merely remove the sequestrum, the operation to be decided by the case. We should not operate too early, because even after pus has formed recovery may take place if the process can be stopped. In the early stages of the disease *immobility* is the great thing. Years ago Hilton laid it down. It is the great principle in the treatment of all joint diseases. In this joint there must be immobility, and there must be extension. Personally he likes to employ elastic extension. The splint shown is a very useful one, but has some imperfections, as, for instance, the child would have to be frequently removed from it owing to soiling. Complete recovery takes a very long time. A splint should be worn for months after all symptoms disappear, in fact would almost say for years. In regard to the muscles, the trouble lies mainly with the strong adductors, and the continued action of these produce constriction of the pelvis and shortening of the limb. As long as there is any tendency to adduction a splint should be applied, at any rate at night.

DR. GIBNEY remarked that all were waiting anxiously for the publishing of the results of Dr. Phelps' cases. Personally he likes the long hip-splint, as he gets better results with it. When there is much deformity, and it will not readily yield to extension, he is in the habit of correcting it by manual force under an anæsthetic. He does this only in what is known as the first and second stages. The treatment takes a long time, and to judge of results, takes years.

DR. HINGSTON stated that his experience had been that both the accession and cure of the disease had been quicker when the softer parts of the joint were affected. When the periosteum and bone were affected the process was much slower. Extension can be gained more effectually by means of a weight and pulley than by splints. The great advantage of the weight and pulley is that you know just what force is applied, and you can judge how much to apply within the limits of safety and efficacy, while in splints the amount of extension varies. He agrees with Dr. Phelps about spasm of the muscles taking place about the inflamed joint and causing much trouble by keeping up the inflammation. This, however, was never a cause of the inflammation. Had never met with a case in which the glutei were affected. It was almost always the tensor femoris and the adductors. In ninety-nine per cent. of the cases we find the limb adducted and flexed. When pus has formed, in his experience it does not resolve, but will eventually show itself externally.

DR. SULLIVAN has found that the great difficulty is to maintain rest. It is almost impossible to convince the friends of the patient that it is necessary. It is hard to decide which splint to use, as there are so many and they are expensive. On this account the simpler ones are advantageous.

DR. FENWICK rose amid loud applause. In his opinion it matters little what form of splint we use, so long as we put the part at rest. This is the great principle to be aimed at. He prefers the weight and pulley. The splint shown is like breeches formerly used with such good success.

DR. CHRISTIE remarked that in the country parts young men had great difficulty in getting appliances. He advises all to

strive to diagnose these cases early and then give the joint absolute rest. If this is done a large proportion will recover. He never could see the *rationale* of Dr. Sayre's splint. In his hands extension had not given very good results, probably because the cases were not in a suitable stage. He would repeat that the great thing is rest. Patients will not continue treatment long enough. If you put the part thoroughly at rest you will not require extension. He uses plaster-of-Paris or starch for this purpose, and envelops one half of the body from axilla to foot.

The PRESIDENT briefly stated that he preferred to use the weight and pulley, and when acute symptoms had subsided, to apply a Thomas's splint and allow the patient to go about. The great advantage of this form of splint is that it can be made by any blacksmith.

In reply, DR. PHELPS said that, according to the title, his paper only referred to the mechanical treatment of hip-joint disease. The treatment of ankylosis is by no means settled in this country. We do not by any means get abscesses in all cases, as we should do were they all tubercular. He would use this splint in all stages of the disease. We do not use elastic extension now, as we think it is better to last the foot to the splint. The splint is only to be used after the acute symptoms subside, and should be continued until no deformity or limp is apparent. As long as the patient is kept in bed the weight and pulley are all right, but we wish to get them out of bed as soon as possible. The glutei muscles produce abduction in the first stage. The second stage is merely an exaggeration of the first. In the third stage we get adduction. Frequently when pus is removed from a joint by aspiration it does not return. Regarding the expense, the splint shown costs about \$2.50. He agreed with what the President had said regarding Thomas's splint, because next to his own he preferred it to all others. In spite of every care, however, abscesses would form in some cases.

THURSDAY MORNING (17TH).

The President in the chair.

Minutes of the last meeting were read and confirmed.

Dr. Mullins' notice of motion, given at the last meeting, was read, but, owing to Dr. Mullins' absence, it was moved by Dr. Bray, seconded by Dr. Taylor, that this motion be kept over pending Dr. Mullins being present later on.

The President's address was then discussed by Drs. Bray, Moore, Hon. Dr. Sullivan, Harrison, Sloan, Sir James Grant, Mr. Thos. Bryant, and Dr. Brosseau.

Dr. Sloan gave the following notice of motion: That the meetings of the Canadian Medical Association be held triennially.

The meeting then adjourned to the Montreal General Hospital, where the members of the Association and visitors were shown cases of varied interest. After partaking of lunch, an adjournment to the Royal Victoria Hospital was made, where the members and visitors were kindly shown through the buildings.

AFTERNOON SESSION.

The President in the chair.

The Nominating Committee, through the convener, Dr. Praeger, reported as follows:—

That Ottawa be the next place of meeting.

President—Dr. Bray, Chatham.

Vice-Presidents—For British Columbia, Dr. Praeger (Nanaimo).

Manitoba, Dr. Jones (Winnipeg).

N. W. Territories, Dr. Lafferty (Calgary).

Ontario, Dr. Prevost (Ottawa).

Quebec, Dr. L. E. Desjardins (Montreal).

New Brunswick, Dr. J. Christie (St. John).

Nova Scotia, Hon. Dr. Farrell (Halifax).

P. E. Island, Dr. McLeod (Charlottetown).

Local Secretaries—British Columbia, Dr. Fagan (New Westminster).

N. W. Territories, Dr. Kennedy (Fort McLeod).

Manitoba, Dr. Riddell (Crystal City).

Ontario, Dr. McKeough (Chatham).

Quebec, Dr. Cotton (Cowansville).

New Brunswick, Dr. Daniel (St. John).

Nova Scotia, Dr. Morrow (Halifax).

P. E. Island, Dr. Johnston (Charlottetown).

General Secretary—Dr. H. S. Birkett (Montreal).

Asst. Secretary—Dr. J. M. Elder (Montreal).

Treasurer—Dr. W. H. B. Aikins (Toronto).

Moved by Dr. Proudfoot, seconded by Dr. Powell, that the report of the Nominating Committee be accepted and adopted. Carried.

The address in Surgery was then read by Dr. Praeger (Nanaimo).

Discussion.

MR. BRYANT—The reader of this paper has not gone into the question of the pathological condition of the spinal cord in these injuries. If it is irreparably damaged, no form of operation could be recommended. In one sense, and one only, is there an analogy between the brain and spinal marrow, viz., that both float in fluids, and therefore any severe concussion of these may lead to loss of function (paralysis) of the natent organs. Thus we may get very grave symptoms without any trace of fracture or displacement, and in these cases we cannot interfere. But in cases of spinal paralysis accompanied by bony deformity, traumatic or otherwise, what are we to do? In these days of anti-septic surgery the answer is plain: we must reduce the deformity if at all possible. In all such cases we should resort to the judicial use of extension and pressure to reduce the deformity. I especially insist on *pressure* over the bony prominence accompanying extension, as greatly favouring reduction. Having accomplished this, our next object is to secure immobility, and for this I know of nothing better than a good-fitting Sayre's jacket. This is the main feature of the treatment, viz., to secure perfect rest for these lacerated parts, and thus promote absorption of exudation and forestall the abscesses which are so liable to occur. As regards the so-called trephining, or elevation of the spinous processes, we are still in an expectant state, and cannot lay down any rules. The best guide for local operation is the presence of localized pain: for if the cord is irreparably injured we have cessation of function and consequently no pain; contra, if there is pain, we may hope for recovery by proper treatment. My own experience is limited, but I recollect one case in which I removed the lamina and the pain ceased, and though the paralysis persisted, the patient lived for years. Let us move with caution, then.

SIR JAMES GRANT drew attention to Charcot's researches on this subject, and gave an account of two very interesting cases he had met with lately, where a peripheral irritation amounting almost to neuralgia was a reflex of spinal disease. There were no physical lesions and no definite injury to the cord, but twelve years previously the patient had pain in the dorsal region. Examination showed one elevated spinous process in that region, pressure on which caused all the characteristic symptoms and aggravation of the peripheral neuralgic pains. Rest cured both these cases. The speaker insisted on a careful examination of the spine in all cases of general indefinite neuralgia.

A vote of thanks was tendered Dr. Praeger for his able address.

Dr. Fenwick then read his paper on "Calculous Pyelitis," which will appear in our next issue.

Discussion.

MR. BRYANT, after referring to the pleasure with which he had listened to the paper, said that he would not discuss the symptoms of this disease; he would suppose the diagnosis made and would pass at once to the treatment. It is well known that in all cases a stone in the kidney does not demand removal. How often it is that in the post-mortem room we find them, when during life they have given rise to no symptoms. They should only be removed by operation when they interfere with the vital functions. The incision described by Dr. Fenwick is the usually accepted one. There is another class of cases in which the treatment to be adopted is not so clear; that is, suspected stone in the kidney. We get a more or less complete train of symptoms—pain, pus in the urine and sometimes blood, tumour in the loin. Is it or is it not a stone? We may set aside those rare cases of disease of the ureters. He drew attention to the importance of examination of urine for pus in the diagnosis of these cases. Where the pus occurs unmixed with mucus, it comes from the kidney. In all cases in which the pus comes from the bladder, it is more or less mixed with mucus. How are we to treat these cases? One man says at once—cut down. He may be right. Would advise a more conservative course. Experience of results

DR. SLOAN quoted two cases in which he had been prepared to operate, and when the appointed hour came the improvement was so marked that the operation was postponed indefinitely, and they recovered. Has been in the habit of giving calomel in slightly larger doses, gr. i every two hours, and has had very happy results.

DR. DUPUIS has always given calomel, for, as he remarked, he had been brought up on calomel. He gives smaller doses now than he did formerly—one grain frequently repeated. He gave the history of a young man who had been suddenly seized with this disease. An abscess formed and burrowed under Poupart's ligament until the whole thigh became a bag of pus. It was opened, but the patient died. Also a case which was in hospital, in which the abscess opened spontaneously in front, and finally a small stone came out. As the abscess cavity was large it was drained from the back, through the quadratus lumborum muscle. Recovery was slow.

DR. SMALL rose to ask what should be done in those recurrent attacks in which the patient is laid up for a few days every few months. He called attention to the beneficial effects of the local application of ice.

DR. COTTON replied very briefly, as time was limited. He said there were two forms, the plastic and the suppurative. The former got well without surgical interference, but the latter demanded operation. He would wait until pus formed to operate. In recurrent attacks he would remove the appendix at any time.

The meeting then adjourned.

FRIDAY MORNING (18TH).

The meeting being called to order by the President, the minutes of last session were read and confirmed.

Drs. Powell and Edwards were appointed auditors.

Dr. Dupuis read his paper on "Malignant Growths." Discussed by Drs. Shepherd, Daniel and Sloan.

Dr. Shepherd then read his paper on a "Case of Strangulated Cecal Hernia." Discussed by Drs. Daniel and Roddick.

Dr. Buller read a paper entitled "Conservative Surgery

the Eye." Discussed by Drs. L. E. Desjardins, Mills, Foucher, Gardner and Osborne.

Dr. Fenwick proposed, seconded by Dr. Jas. Ross, that Mr. Thomas Bryant, of London, England, be elected an honorary member of this Association. Carried.

Dr. Alloway read his paper, "Excision of the Cervix Uteri in cases of long standing Laceration and of Proliferating Endometritis." Discussion postponed until the afternoon session.

Dr. Powell gave the following notices of motion :—

1. That only delegates and visitors from places outside the Dominion should have the privileges of registration without a fee.

2. That a definite annual fee for membership to the Canadian Medical Association be established, and that the present system of collecting a registration fee from those present at the meeting be abolished.

Dr. Aikins (treasurer) read his report, in which he stated that the present meeting has been the most successful in the history of the Association—the enrolled membership being one hundred and thirty-five, the largest hitherto known.

Dr. Powell presented the auditors' report, which was received and adopted.

The meeting then adjourned to Notre Dame Hospital, where the members of the staff brought many interesting cases to the notice of the visitors, after which lunch was partaken of.

AFTERNOON SESSION.

The President in the chair.

Dr. Alloway's paper was discussed by Drs. W. Gardner and L. Smith.

Dr. Wilkins read his paper, "Cold Baths in Typhoid." Discussed by Drs. Ruttan, Powell, George Ross, Sloan, and James Stewart.

Dr. Small (Ottawa) read his paper, "Malignant Disease of the Cervix Complicating Labour." Discussed by Drs. Laphorn Smith, Wm. Gardner, and James Ross.

Dr. Wyatt Johnston (Montreal) demonstrated a new method of obtaining samples of water at any depth below the surface.

Dr. Elder gave a brief summary of his paper on "Traumatic Separation of the Lower Epiphysis of the Femur," and exhibited the patient. Discussed by Dr. Shepherd.

Dr. W. Johnston gave a demonstration of "The Sputum in Heart Disease."

Dr. McConnell read his paper on "A Case of Impacted Gallstones followed by Abscess of the Liver," and exhibited the pathological specimen.

Dr. George Ross made a few remarks upon the case.

Dr. L. Smith read a paper on "A Further Plea for the A.C.E. Mixture.

Dr. Proudfoot gave a brief outline of a case of "Occlusion of Auditory Meatus by Hyperostosis."

A paper by Dr. Slayter, "Is Cancer on the Increase in Canada?" was accepted as read.

Notice of motion by Dr. Powell: "That in future a stenographer be engaged to report the proceedings of the Canadian Medical Association in order that an official record may be preserved."

Votes of thanks were then passed as follows:—

(1) To the Very Reverend the Dean of Montreal for having placed at the disposal of the Association the splendid school-room of St. George's Church.

(2) To the various railroad and steamboat companies for issuing reduced rates to the members of this Association.

(3) To the Bell Telephone Company for having placed an instrument in the building for the use of the members.

(4) To the manager and directors of the Quebec and Lake St. John Railway for the kind invitation to visit Roberval.

(5) To the Governing Board of the Royal Victoria Hospital for the kind invitation to inspect the buildings of that institution.

(6) To the profession of Montreal for their kind and appreciated hospitality.

(7) To the retiring President for the able manner in which the business of the meeting has been conducted.

The meeting then adjourned.

THE ANNUAL DINNER OF THE CANADIAN MEDICAL ASSOCIATION.

The banquet tendered by the members of the profession in Montreal to the guests and visiting members took place in the evening of the 17th of September, in the Windsor Hotel. One

hundred and thirty guests were present. Dr. Hingston presided, and on his left were Mr. Bryant of Guy's Hospital, London, Sir James Grant, Dr. Fenwick, Dr. George Ross, Dr. Sexton of New York, Dr. McEachran, Dr. Marceil, M.L.A., of St. Eustache, and Dr. Buller; on his right being Dr. Roddick, President of the Association, Hon. Dr. Sullivan of Kingston, Dr. James Ross of Toronto, Dr. Taylor of Goderich, Mr. H. R. Gray, President of the Pharmaceutical Society, Montreal, and Dr. Bridges of the New York State Medical Society. The vice-presidents were Dr. Shepherd, Dr. E. P. Lachapelle, Dr. James Bell, and Dr. Guerin.

Dr. H. S. Birkett, the General Secretary, read letters regretting their inability to attend from His Excellency the Governor-General, Lieut.-Governor Angers, Consul-General Knapp, Hon. Dr. Paquet, Dr. Joseph Workman, Hon. Dr. J. J. Ross (the new Speaker of the Senate), Rev. Dean Carmichael, and Dr. H. P. Wright (Ottawa).

The toasts of "The Queen," "The President of the United States," "The Governor-General," and "The Lieut.-Governor of Quebec," were proposed and heartily drunk; and that of "The Army, Navy and Volunteers" was proposed by Dr. Buller in a neat speech.

Dr. Cameron responded for the army, Dr. Bell for the navy, and Dr. F. W. Campbell for the volunteers. Dr. Mount, who was also called upon to respond, did so by singing "Le Brigadier," in the chorus of which nearly all those present joined with great heartiness.

The toast of "Our Guests" was proposed by Dr. Shepherd, who referred with satisfaction to the fact that the visitors had come from the West and the East of the Dominion, from the neighbouring Republic, and from England. Mr. Bryant's mature wisdom had added very much to the interest of the meeting of the Association. Dr. Roddick had referred to the Association as being in a decrepit condition, but the number of doctors present at that banquet proved that he was wrong. (Cheers.)

Dr. Powell of Ottawa briefly responded, and immediately afterwards gave a harmonious song entitled "McCarthy," which was received with loud applause,

Dr. Guerin also responded briefly, and, recalling his student

days, sang "Alma Mater," a ditty which seemed to be familiar to most of his hearers.

Dr. Charles Wilson was next called upon, and he, too, responded with a song, a clever parody on a melody from "Patience," and entitled "If you're anxious to shine as a fully-fledged M.D." Dr. O'Connor next sang a funny, clever and witty song, "I Stood by the Open Window." Dr. Harwood then sang "Alouette," to the evident gratification of all.

Mr. Bryant, who was greeted with loud applause, brought the diners to a more serious frame of mind by a speech in which he referred with emotion to his surprise at the enthusiastic manner in which he had been welcomed at the meeting of the association. He had never, he said, been the recipient of a more cordial welcome anywhere than he had been in Montreal. He had been astonished at the warm-hearted hospitality that had been extended to him, and he would ever cherish a kindly remembrance of his visit to Montreal. He had been merely a passing traveller through the city, having arranged to stay only forty-eight hours, with the object of visiting a few of his medical friends here, and he had been delighted to accept the invitation that had been sent to him to be present at the meeting of the association and at their banquet.

Dr. Dupuis, of Kingston, Dr. Harrison, Dr. Muir, of Brockville, Dr. Fraser, from British Columbia, and Dr. Christie, from New Brunswick, also spoke in reply.

Dr. Marcell, who was last called upon, made one of his characteristically eloquent speeches in French. He said that there was no such thing as annexation or so-called reciprocity in the science which the members of the association followed, for that science had for its object the benefit of humanity and knew no political barriers.

The Chairman, in proposing the toast of the "Canadian Medical Association," said, and in some circumstances which seemed to affect him deeply. He had been the first secretary of the association, had been a correspondent at several times, and once had had the honor of being its president. He could not but recognize the work and value of the Association in his country, and he was proud to be its president. He was proud to be its president, and he was proud to be its president.

fore it. The cases which they had seen that day at the General Hospital, and which had been treated by such men as Dr. Shepherd, Dr. Bell, Dr. Armstrong and Dr. Sutherland, showed that Canadian doctors had achieved successes in their profession, which even Mr. Bryant, of London, had said he had never seen equalled. (Applause.) He also condemned the suggestion of holding triennial meetings of the association. It was an enormous advantage for the doctors from the east and the west of the Dominion to come together once a year and exchange their experiences. He also animadverted upon the fact that the licenses issued to practitioners in one province were not held to be sufficient in another, and he expressed a hope that the day was not far distant when these restrictions should be removed, and when the grand scheme of confederation should include the practitioners of the whole Dominion in the circle of its influence. In conclusion, he spoke in terms of eulogy of the ability and integrity of his friend, Dr. Roddick, whose name he coupled with the toast.

Sir James Grant, Hon. Dr. Sullivan, Dr. Roddick, Dr. Geo. Ross and others replied.

We publish in full Sir James Grant's eloquent speech on this occasion. The Hon. Dr. Sullivan replied in his best form, and our only regret is that we were unable to obtain a full report of what proved to be a very able and humorous speech.

Sir James Grant's reply to the toast of the Canadian Medical Association :—

Mr. President and Gentlemen,—I thank you for the opportunity of making a few observations on the Canadian Medical Association and the various points incidentally allied with our profession in the great march of progress at the present time. The subjects of our medical curriculum and the change to five years of study, as well as the advanced matriculation examination, appear to be very acceptable to the members of the medical profession and the colleges generally. What we now require is one central authority from which degrees in medicine and surgery can be obtained by the passing of a thorough uniform medical examination for the whole Dominion. At present it is not in keeping with the best interests of the profession in Canada to

set one province up against the other. This whole subject, brought under the attention of the proper authorities, will in time be rectified, and thus much good accomplished. By the British North America Act educational matters are under the control of the several provinces. This will require a change in so far as our profession is concerned, and surely what is identical with the dearest interests of our common country will not be refused. It is now twenty-four years since this Medical Association was organized, and during that period its ebb and flow has been more or less spasmodic, and why so, it is difficult to define. This Montreal meeting is certainly most successful, there being quite a large attendance, members being here from the Atlantic and Pacific Provinces, as well as from many intermediate points. The papers read were of a most practical character, and the demonstrations at the hospitals point out in the most undoubted manner that medical science in Canada is keeping pace with that of the outside world. I am confident the President of the Royal College of Surgeons, Mr. Bryant, who is with us to-day, will carry back to England a most favourable impression of our medical schools and our hospitals. Such gatherings as the present cannot fail to be productive of benefit. The intellectual friction resulting from the commingling of ideas and exchanging of sentiments, in the discussion of the various papers brought before the Association, must result in much good to our profession. Attendance at these Association meetings is a duty the members of the medical profession owe to their constituents; by coming here they see the evidence of the progress being made in the vast collection of medical and surgical appliances, and, in fact, everything that tends to the welfare of the public requiring their assistance in their particular spheres of duty. I feel confident that the sentiments expressed by our worthy President, Dr. Roddick, as to the languishing of our Society are overdrawn; it appears to me that fuller life and vigour is being thrown into the Association,—and at the next meeting at Ottawa I hope to see a large increase in the attendance from the various sections of the Dominion. Medical gatherings are now the order of the day. Recently a great congress of Hygiene, numbering some

3,700 members, from all parts of the civilized world, assembled in London. There the most important questions with reference to hygiene and hygienic precautions were discussed in an able and comprehensive manner, and there was one undoubted evidence of advancement which touches very closely the workings of the institutions of our own country, and for that reason I wish to advert to it very briefly,—it is the necessity of an alliance of veterinary science and pathology with medical science in order to trace up more closely the intimate relationship that exists between the quadruped species and the genus homo. Much good of a practical nature will thus be accomplished tending to advance the welfare of the people. The subject of tuberculous meat, and the spread of consumption from the use of this form of impure food, is certainly worthy of the closest investigation. I trust the day is not far distant when the Government of Canada, like that of Germany, will see the necessity of the establishment of abattoirs presided over by scientific experts, who will test carefully the various descriptions of meat before they are distributed to the public. Thus, undoubtedly, the spread of disease through such channels would be very materially curtailed. Again, the closer association of veterinary science and medicine, if only resulting in the organization of a board to watch carefully the cattle trade of England and Canada, would certainly be productive of great benefit to our race. The progress of medical science at the present day is very marked in every department, and to keep abreast with it, the most careful observation and the closest inquiry and study are required, such as we have an opportunity of pursuing in meetings like this of the Canadian Medical Association. Time is an important factor in the accomplishment of everything, and when we trace the grand achievements brought about by that father of medicine, Sydenham, who laboured so vigorously in the 17th century, it should be a source of encouragement to us who are now labouring in the same field of study. We have with us this evening many devoted teachers in the various rôles of our profession, and no position in life stands higher than the noble calling of him who devotes his energy and ability to the imparting of informa-

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stone, on the banks of the Bow River, equipped with all the modern appliances, and some of the most critical operations in surgery being performed by a graduate of the University of Winnipeg. Is this not a sure evidence of the progress and prosperity of our country such as will be a pleasure to every member of this Association? What a source of pride it must be to our profession to note the advancement of hospitalism generally! Where a few years ago such an institution was scarcely known, in China there are to-day upwards of one hundred and twenty in full operation; and, again, in Tokio, Japan, there is a medical laboratory in which all drugs and patent medicines are carefully analysed and reported upon before their sale in the country is permitted. What an advantage it would be to the Dominion of Canada if this Association could be the medium of the establishment of a laboratory of some description in order to lessen the indiscriminate use of the multifarious quack remedies that are scattered broadcast over our country. In this direction our Association doubtless can accomplish a good deal, and it is to be hoped the day is not far distant when Canada will be up and doing in this respect. It is said that the profession in Canada is very much overcrowded—that the system of education now being introduced will tend not only to advance the interests of its members, but at the same time reduce the numbers of those graduating. There is, however, always room in the upper rungs of the ladder of fame, and with the rapid development of the country and the progress that is being made in almost every direction in the great North-West, I feel sure that our young Canadian graduates will have ample scope for years to come for the exercise of their mental powers. The good reputation of Montreal as a medical centre, Montreal as a centre of advanced education, as well as of trade and commerce, is certainly most progressive. Its present is only an index to its future, inasmuch as its extending sea-port and shipping, and its rapidly developing connections east and west, cannot fail to make it a chief commercial emporium of the Dominion. Under these circumstances it is most gratifying to observe the progress of intellectual development through its greatly increased scientific and religious

institutions. In assembling here, the members of our Canadian Medical Association have not failed to note those facts, inasmuch as the surroundings generally indicate advancement characteristic of the spirit of the age in which we live. In conclusion, let me wish our Society a long and prosperous life, with greatly increased usefulness.

THE PROVINCIAL MEDICAL BOARD.

The semi-annual meeting of the Provincial Medical Board was held at Quebec on Wednesday, 30th September. There were present Drs. R. F. Rinfret, M.P., Alfred Morissette, F. G. Austin, Jules Prévost, E. P. Chèvrefils, l'Hon. M. Marcil, H. A. Mignault, J. M. Beausoleil, Robt. Craik, L. J. A. Simard, Geo. Ross, Côme Rinfret, A. Lagenais, Thomas Larue, L. J. E. Desjardins, J. H. L. St. Germain, L. T. E. Bousseau, Léonidas Larue, P. Laberge, A. Vallée, C. E. Lemieux, écr., J. Lippé, P. M. Guap, M.P., F. Trudel, L. H. Labrecque, C. S. Parke, F. W. Campbell, and A. G. Belleau, secretary.

In the absence of Hon. Dr. J. J. Ross, President, the chair was taken by Dr. A. F. Rinfret, M.P., Vice-President.

After the adoption of the minutes, the report of the examiners for the preliminary examination was read, giving a list of students entitled to registration. The committee on Credentials made their report. The question of reciprocity with Ontario was left over until the next meeting. The committee for examination for license was appointed as follows, viz.: Surgery, Dr. C. E. Lemieux; Med. Jurisprudence, Dr. Vallée; Medicine, Dr. Geo. Ross; Mat. Medica, Dr. Jules Prévost, and Obstetrics, Dr. H. A. Mignault. One candidate only presented himself and was rejected.

The following holders of the Bachelor's degree were sworn and admitted to the study of medicine, viz.: MM. Bernard Miville dit Déchêne, B.S., St. Paschal, Kamouraska; Jean Marie Arthur Rousseau, B.A., St. Casimir, Portneuf; Gustave Augustin Côté, B.L., Ste. Anne des Monts; Félix G. Fortier, B.A., Quebec; Evariste Gélinas, B.A., St. Barnabé and St. Maurice; Jos. H. Richard, B.A., St. Maurice; R. B. Mackay, B.A., Montreal; Jean-Etienne-Jos.-Ph. Landry, B.A., St. Roch, Quebec; Joseph F. X. Bossé, B.A., St. Onzime; Calixte Alp.

D. Masson, B.L., St. Anicet, Huntingdon; Ernest Cyr, B.A., Maria, Baie des Chaleurs; Walter J. LeRossignol, B.A., Montreal; Joseph Lapierre, B.S., St. Jerome; Aurélien Constantineau, B.S., Montreal; Alexis Lagacé, B.A., Montreal; J. A. Lortie, B.S., St. Justin de Mewlon; W. J. A. Derome, B.A., St. Jean Chrysostome; E. C. Campeau, B.A., Vaudreuil; Wm. F. Deeks, B.A., Montreal; Isaac L. Hargrave, B.A., Eden, Man.; Thomas Nelson Walsh, B.A., Ormstown.

A unanimous vote was passed congratulating the President upon his elevation to the Senate.

It was moved by Dr. Mignault, seconded by Drs. Craik and Parke: That the Governors of the College of Physicians and Surgeons of the Province of Quebec desire to express their regret at the loss which the College has sustained by the death of Dr. Thomas A. Rodger, one of the governors representing the district of Montreal. His influence amongst the members of this Board was deservedly great, being endowed with unquestioned talent, as well as of unchangeable good nature, as is admitted by all who came into contact with him. He always devoted himself heartily to maintaining the honour and best interests of his profession, of which he was a distinguished member. That this Board expresses their profound sympathy with the bereaved family.

The following graduates were sworn and received their license to practice, viz.: Roch Auguste Paradis, Lotbinière; Albert Aubrey, St. Stanislas de Kostka, Beauharnois; Joseph N. Perrault, St. François du Lac; George E. R. Fortier, Quebec; Alfred Arsenault, St. Bonaventure; C. J. M. Verge, jr., Quebec; Achille Chandonnet, St. Pierre les Becquets; Pierre V. Faucher, St. Foy; Gédéon Blanchet, St. Dominique, co. of Bagot; Alexis N. Bellemarre, Yamachiche; Georges Eugène Guillemette, Bay St. Paul; Joseph L. M. Genest, St. Bernard; Chas. E. Augé, Drummondville; Georges Cloutier, St. Georges, Beauce; Camille Gariépy, St. Casimir; Arthman Bruère, Montreal; Elizabeth Walker (nee Bruère), Montreal (M.D. University of Paris); William Dougan, St. Catharines, Ont.; Jas. P. McIntosh, Connecticut, U.S.; John E. Molson, Montreal; Alexander Dewar, Winchester, Ont.; H. B. Ford, Morewood, Ont.; Achille Dagenais, Montreal; Antoine Chopin, Montreal; Charles Wilfrid Beaudoin, St. Bridget, Iberville; Jos. Poupore,

Montreal; George Sheriff, Huntingdon; William Fawcett Hamilton, Montreal; Joseph Elie Landry, Stanhope, Quebec; Ovide Normandin, Ste. Philomène; Alex. A. McCrimmon, Montreal; Neil Malcolm Watson, Williamson, Ont.; Thomas Beeth, Otenaw, Man.

A letter was read from Messrs. Martigny and Montpettit, representing the students of Laval, complaining of the paucity of subjects and the high price charged for them by the Inspector of Anatomy. Another from Mr. George DeFoy offering to furnish bodies for dissection for \$5 apiece.

It was moved by Dr. Dagenais, seconded by Dr. Beausoleil: That this Board recommends the Government to repeal the present law concerning the Inspection of Anatomy, and that an amendment to the Medical Act invest this Board with power to govern the inspection of anatomy. Carried.

Moved by Dr. Craik, seconded by Dr. Marcil: That whereas certain holders of the degrees of B.A., B.Sc. and B.L. have, through ignorance, neglected to have their degrees registered at the proper time, resolved—That to rectify this omission all who have so graduated since the promulgation of the Act up to the present date, and who have signified their intention to this effect, be considered as having been registered students of medicine from the date of their respective degrees. Lost by a vote of 7 against 15.

Dr. J. J. Dugdale was named assessor for Bishop's College in place of the late Dr. Rodger.

Dr. John A. McDonald, of Montreal, was elected a governor of the College in place of the late Dr. Rodger.

Dr. Lippé presented a scheme for a system of mutual life assurance amongst all the physicians of the Province, but no action was taken.

Dr. Beausoleil presented the Report of the Committee on Legislation. This will be printed, circulated amongst the members, and considered at a special meeting of the Board to be held on the last Wednesday in October, at Montreal.

THE
Montreal Medical Journal.

VOL. XX.

OCTOBER, 1891.

No. 4.

THE CANADIAN MEDICAL ASSOCIATION.

The recent meeting of the Canadian Medical Association, held in Montreal, is unanimously allowed to have been the most successful gathering of this Association ever held. It is truly gratifying to the members who, year after year, have struggled to maintain the very existence of this Society to have their efforts crowned with such marked success. There is every reason to expect that the Association has seen the last of its struggles now, and that it has entered on an era of prosperity.

The prosperity of the parent Medical Association of the Dominion will not interfere with the success of the provincial and district associations. On the contrary, its success will have the tendency to rather increase the already prosperous provincial associations in Ontario and the Maritime Provinces. The attendance at the recent meeting was considerably greater than at any previous meeting. The papers read and the discussions were above the average of previous years.

An important feature of the meeting was the presence of several English and American surgeons, who took a very active part in the work of the Association. Mr. Thomas Bryant of London, the distinguished surgeon of Guy's Hospital, deserves special mention for the great interest he manifested in the proceedings and for the active part he took in the discussion of the surgical papers. Dr. Barbour of Edinburgh, and Drs. Gibney and Phelps of New York, were also present. Drs. Gibney and Phelps read papers which attracted much and well deserved attention.

As special contributors to the success of the meeting must be mentioned the President, Dr. T. G. Roddick, and the

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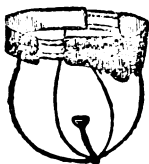
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

NOVEMBER, 1891.

No. 5.

Original Communications.

THE VALUE OF THE STUDY OF MEDICINE.

INTRODUCTORY LECTURE AT THE OPENING OF THE 59TH SESSION
OF THE MEDICAL FACULTY OF MCGILL UNIVERSITY,
DELIVERED OCTOBER 1ST, 1891.

By R. M. BUCKE, M.D., OF LONDON, ONT.

Mr. Dean and Gentlemen :

The invitation which so much honors me to deliver this introductory lecture came to me as I was on the point of sailing for England. I had not strength of mind to refuse, nor had I, under the circumstances, any means whereby adequately to fulfil so important an engagement, for if I accepted I should have to write my lecture largely or altogether at sea, and the use of books would therefore necessarily be denied me. I decided, nevertheless, to attempt the task and to rely largely upon such inspiration as the ocean might give me, and accordingly much of what I now offer you was penciled on the steamer's deck in full view of the sparkling wave crests or of the long, slow, sullen roll of the unquiet Atlantic. It would be well, both for you and for me, had I been able while so occupied to catch from my great companion one pulse of her cosmic passion, one glimpse of her breadth, freedom, audacity, *insouciance*, one iota of her depth, her clearness or her beauty. You will judge, gentlemen, how little of all this has been granted me, but there remains my deep feeling of the privilege of speaking to and for and in the halls of dear old McGill, and on this feeling I rely to carry me without dishonor through the present undertaking. One-third of a century

ago, sitting for the first time on these benches, eager for knowledge and longing for distinction, my loftiest ambition would not have dared aspire so high as to the position I am this moment occupying, and my first duty to-day is the pleasant one of thanking this distinguished faculty for having singled me out from among far worthier men for this high, I might say this supreme, compliment.

I have said that I first sat on these benches a third of a century ago. That is a long time, but it is not long enough to dim in the slightest degree my memory of the men who then taught in these lecture rooms, nor to lessen my affection and reverence for them. They have gone to their reward, and my fellow-students are rapidly, year by year, following them. Have patience with me a moment while I, just for the pleasure the reminiscence gives me, speak of those old days and of those well-beloved teachers.

When I first came here to study, away back in the fifties, Dr. Holmes was Dean of the Faculty and Professor of Practice of Medicine. No simpler-hearted or more lovable man ever lectured in these halls. I attended a course of his lectures before he passed away—as he did while I was here—and have the notes of these lectures still. Scientific medicine has left far behind it since then his methods of diagnosis and rules of treatment, but I doubt much whether the best modern physician is more welcome at the bedside or does more good to his patients. The truth is that though we have since then created whole sciences, such as microscopy, bacteriology and gynecology, doubled and trebled many others, such as psychiatry and pathology, learned to diagnose numerous diseases then unrecognized, invented instruments without number and introduced “new remedies” past computation, yet we have not, to adopt Tennyson’s language,

“Gained a real height,
Nor are we nearer to the light
Because the scale is infinite.”

For centuries which are yet in the gravid womb of futurity, we shall advance and advance and advance as we have done in those old centuries which are dead, but we shall never get nearer absolute knowledge than we have been from the beginning and are now. All human history that has been and

is to be written is embraced by a certain poet in two short lines:

“Urge and urge and urge
Always the procreant urge of the world.”

Dr. Campbell, professor of surgery, succeeded Dr. Holmes as Dean. The medical students of McGill have probably never looked up to any other man with quite the same reverence that they bestowed freely upon him. Noble in stature, face, manner and speech, he was a typical leader of men, and especially of young men. It did us more good simply to see him and to hear his voice than the whole teaching of a lesser man would have done. I was fortunate enough upon graduating to receive some prize books, which to-day are among my most precious possessions, because they are inscribed in the bold handwriting of grand old George Campbell.

I do not know how the students of to-day like their lectures on chemistry, but in my time, at all events to me, the lectures given by Dr. Sutherland were a source of constant pleasure. I can see his keen eye and handsome, kindly face, and hear his ready, eloquent words, uttered indifferently in French or English, as plainly now as I could in that far-back time while watching and listening to him, myself sitting all eyes and ears on a bench well toward the front of the room so that no detail might escape me. Dr. Sutherland was enthusiastically admired and most highly respected by the students who, in my time, were not as a rule especially guarded in their language, and what they thought was pretty apt to be said; it is all the more significant on that account that all the time I was at college, and all the time since, I have never heard a word spoken by one of them of either Dr. Campbell or Dr. Sutherland which, if known to them, would have displeased them. These three men, Drs. Holmes, Campbell and Sutherland, had our respect, our admiration and our gratitude, but the affection of the medical student of my day was given to Dr. Howard. Even now as I speak I see his tender, thoughtful eyes and hear his wise and gentle words. As a physician, as a friend, as a man, R. Palmer Howard lives to-day in my loving remembrance as among the wisest, truest, most kindly and best of all the men whom I have known.

Before I close this part of my discourse permit me to speak

for a moment of one other. There are men in this room who will know already to whom I am about to allude. He was not my teacher in the same sense as were those whose names I have mentioned, but in another way I learned from him as much as from any. He was my fellow-student, but I looked up to him as the pupil looks up to the master whose wisdom he recognizes. Joseph M. Drake, even as a student, was a learned man, and more, he was a wise man. He was the nearest of all men with whom I have been acquainted to Shakespeare's marvelous creation—the melancholy Dane—Hamlet. He was like that most lovable prince, learned, wise, critical, deeply religious, pre-eminently conscientious, and like him, too, he lacked determination, self-assertion and self-confidence; but no truer friend or man ever lived on this planet.

I would not like to have it thought—because I do not name them—that I was blind to, or that I am forgetful of the good qualities of my other teachers. I remember as the observations of yesterday the personal traits of Drs. Hall, Fraser, Wright and Scott. I recognize their learning and their excellent qualities. I remember how soundly I used to sleep—miserable wretch that I was—at the lectures of one of them, and how preternaturally wide awake I used to be at the weekly “grinds” of another.

Of my fellow-students, right good fellows and warm friends as many of them were, and as some of them still are, I will say little except that they are rapidly passing over to join the great majority. Many have long left us. Two have gone within the last few months, but some—good men and true—firm and lifelong friends to me, are still left. One thing I can say, and right proud I am to say it, that I have never known a graduate of McGill to become in any sense unworthy of his noble profession, or of his grand old *alma mater*.

But time will not allow that I pursue these personal matters further, were it otherwise I have said but a small part of what I would say. For as I speak the faces of dear friends—fellow-students and teachers—living and dead pass as in a vision before me. They are all sons of our dear mother. All sons of dear old McGill. And you young men coming to her now, I warn you that if you are worthy of her you, too, will

come to love her even as you have loved her who, until now, has been the dearest to you. That is the condition. Be worthy of her. Be worthy of her gifts, and she will bestow upon you riches unspeakable; be worthy of her regard and she will never forget you; be worthy of her affection and she will repay you with priceless immeasurable love.

Gentlemen, my purpose in appearing before you to-day was to speak to you for a short time upon a topic which, as it seems to me, is less often and less freely dwelt upon than its importance deserves; upon, namely:

THE VALUE OF THE STUDY OF MEDICINE.

At first sight nothing seems more obvious than the value of the study of medicine, but as a matter of fact there are few things less so; for what seems its greatest value is in reality its least, and its greatest value is either not seen at all, or when seen not recognized.

In the minds of most people the chief (if not the only) object of the study of medicine is the cure of disease, and no doubt it has some value in this direction, though wonderfully little as compared to what is generally believed. A few diseases can be cured, but by far the greater number cannot be cured by any means known to the world at present. Of those diseases which cannot be cured some lead inevitably to death, the rest, after running a longer or shorter course, spontaneously subside and the patient regains his health. It is chiefly from this last mentioned large class of diseases that the doctors derive their income and reputation. But it does not follow that in cases where the science of medicine cannot cure it is therefore valueless. In cases where the disease leads with sure steps, faster or slower, to death, there are few instances in which life cannot be prolonged and suffering lessened by a wise use of the means at the disposal of the trained physician. Neither does it follow that the science of medicine is useless in cases where, though the disease cannot be cured, its natural tendency is towards recovery, for in such cases the comfort of the patient can often be greatly promoted by judicious management. And a knowledge of the natural history of the disease will often enable the physician to give such advice and warning as may lead to the avoidance of seri-

ous mistakes which might, and probably otherwise would, be made by those in charge of the sick person, or by the sick person himself. The study of medicine, therefore is valuable, first for the cure of disease, second for the relief of suffering, third for the prolongation of life, and fourth for the management of such diseases as tend to get well of themselves.

All these are very well, and when any of us are sick we are glad to get an educated physician to tell us what to do and to help us get better, but they are, all put together, a small matter compared with the next factor in the value of the study of medicine which is to be mentioned, namely, the prevention of disease.

This is the field in which medicine has made its great practical conquests, and those that it has made in this field I firmly believe are trifling compared to those that await it in the near future. But consider for a moment what has been done already in this direction. Many of the most deadly diseases, such as the plague, cholera and smallpox, have been either entirely or almost entirely stamped out in civilized countries, and the avoidance of other diseases, such as typhoid fever, is surely, if somewhat slowly, following. By special means, such as vaccination, and by general sanitary measures, such as cleanliness, ventilation and drainage, not only these special diseases, but a large number of other ailments have been rendered less frequent and (when they do occur) less fatal. Again the sciences of anatomy and physiology are teaching us every day the folly, I might even say the sin, of certain highly injurious customs connected with dress, such especially as tight lacing; and I believe that common sense, in spite of fashion, is, as a result of scientific teaching, gradually permeating this department also; and perhaps our great grandchildren will enjoy the pleasure which is denied to us of seeing in our homes and about the streets the beautiful female form, as originally designed by the Creator, natural and graceful, undeformed by artificial appliances of any kind, the clothing so designed as to exhibit (not impiously attempting to improve) that supreme work of the Great Artist. When this day comes many diseases and weakness now common will be unknown. In the meantime, as a recent able writer has said, "while the dress of men is not in all respects what it should be, that of women is a disgrace to civilization."

In the matter of diet, and more especially in that of drink, the inhabitants of civilized countries, guided by medical science, have of late years made vast strides towards a more rational and more healthy life; thus it is now demonstrated that alcohol is always injurious when taken as an habitual article of consumption. This knowledge now gradually permeating the masses everywhere is unquestionably destined to lead at last to the total disuse of alcoholic stimulants. Already the change effected is marked, the quantity of alcohol consumed per thousand of the population in Western Europe and America being to-day much less than it was even twenty-five years ago, and diseases caused by its use have proportionately diminished.

Some idea of the value of general hygienic knowledge may be gathered from the single fact that whereas early in the eighteenth century three out of every four children born in London, England, died under the age of five years, at present only one out of every four dies during those years. Or to put it another way: one hundred and seventy-five years ago of all the children born in London only one-quarter lived to be five years old, at present of all the children born in that city three-quarters live to be five years old. It is probable that in this particular London would fairly represent the civilized world, so that it is safe to say that to-day the prospect of a new born child growing to manhood or womanhood is at least three times as good as it was a hundred and seventy-five years ago. And this enormous change is very largely due to the progress of medical science.

What has already been done in the way of prevention of disease, great as it is, is probably trifling compared with what will be done in the immediate future, since this branch of medicine is advancing with gigantic and ever quickening strides. As the exact nature and cause of the various diseases are discovered, means will be found, not dreamed of yet, to prevent their occurrence. Already medical science is beginning to point out how such common and terrible scourges as consumption and insanity should be attacked, and I have no doubt myself that in the course of another century the acute specific fevers, such as scarlet fever, measles, typhus, typhoid and the rest, will be stamped out in all civilized countries. In

fact it is impossible to overestimate the good that medical science has already done and may yet do for mankind in the ways mentioned ; in the ways, namely, of relieving suffering, curing disease, and, above all, preventing disease. This being the case, I have no doubt I shall astonish many of you when I say that it is my deliberate opinion that the way in which medical science has been, and is to be, of most value to the race has not yet been touched upon by me to-day, and remains still to be mentioned ; such, however, is my conviction. I believe that the general enlightenment which has come to the race through this great study has been of far more value to mankind than all the benefits I have recited. And I believe that it was well that man, being in all other respects constituted as he was, was created liable to accidents and diseases that he might be stimulated by these to the study of his own body and mind and of nature, in order that he might gain some knowledge of these diseases and the means by which they might be prevented, cured or relieved.

For man is naturally indolent, and unless he had been driven, as he was by the pain of disease and the fear of death, it is certain that he would have remained until to-day as ignorant of his own structure and nature as he was ten thousand years ago.

As I understand it, then, disease and death, and especially the fear of disease and death, have been and are good friends to man and not enemies as generally supposed ; for by them man has been driven to investigate the laws which govern his own life, as well as those which preside over universal nature. The immediate purpose of his study has been and is to defeat disease, and in this purpose he has been, as we have seen, largely successful. But by and through this same study he has achieved something far more valuable than that which he sought. He has achieved, namely, or is in process of achieving, the liberation of the human mind. For what does the study of medicine after all mean ? It means the study of man. But in order to understand man we must first understand his surroundings ; that is, the world in which he lives. The study of medicine, therefore, means the study of man and of all his surroundings, that is, of all things with which he is in relation ; in other words, the study of himself and all things

which do or may affect him prejudicially or beneficently. This study is, therefore, universal, and the following instances will show how it comes to be so. We want, for example, to understand the eye in order that we may treat its diseases and remedy its various defects, but the first thing we discover about it is that it is an optical instrument and that nothing can be thoroughly understood about it until the laws of optics are mastered, so we had to and did study light. So we want to understand the ear in order to treat its diseases, and in the same way we find that it is an acoustic instrument, and that nothing can be satisfactorily understood about it until the general laws of sound have been elucidated; we therefore study and finally master the science of acoustics. Botany is one of the tributary sciences to medicine and was created for its purposes in order that the vegetable kingdom might be forced to render up such substances as it possessed capable of being utilized in the treatment of disease. In order that man's true place in creation and his relation to the animal kingdom might be established, so that the structure and functions of the various parts of his body might be comprehended, the great science of comparative zoology was instituted and the development hypothesis, that vast and magnificent scientific structure built up within the present century by the labors of Lamarck, Isidore Geoffroy Saint Hilaire, Wallace, Darwin, Lyell, Huxley, Haeckel and Herbert Spencer, may be properly looked upon as a mere outgrowth of the science of medicine.

When we look at the subject more deeply and consider it more profoundly the above are seen to be comparatively trivial instances. We discover that man, standing as he does in nature and as part of nature, and also at the summit of and in a sense above nature, all the rest of nature is tributary to him, and leads up to him; that therefore the right understanding of man involves and supposes the right understanding of much that is not man.

It will be interesting and perhaps instructive to follow this proposition into some detail, and in order to do so I propose to show how a number of ascending lines starting from the various departments of lower nature converge toward, and at last meet in that miracle of elaborate organization, the human

body. These lines or series may be designated as first the Morphological Series, second the Histological Series, third the Chemical Series, fourth the Dynamical Series, and fifth the Psychological Series.

(1st.) The Morphological Series is the term used to designate the ascending sequence of forms which passes in an unbroken order from the lowest animals up to man. No member or organ in the human body can be fully understood until it has been traced throughout this series. For the various members and organs of the human body were not originally created as they exist in that body, but have each one of them a long history stretching far back into prehuman times, and we might as well expect to understand the present state of civilization in England without any knowledge of the early history of the races who now inhabit that country, as expect to realize the meaning and value of (for instance) the brain without any knowledge of its infra-human forms.

In saying this I do not necessarily imply that the human brain has been evolved from a lower form of brain, whether it was so or not it is equally necessary to study the lower and simpler forms in order to understand the higher and more complex form. The same thing is true of every organ in the body, to understand their structure and function as they exist in man, and to comprehend their genesis and evolution it is absolutely necessary to study them as they exist in the lower forms of life.

As in the case of the separate organs so in the case of the entire individual. The study of man which has been forced upon us by the dread of disease and death has gradually opened our eyes to the fact that there is an intimate relationship between ourselves and other animals who occupy a lower place in the scale of creation than we do. We have learned that every organ in man, down to the most minute, is tallied by a similar organ in any one of the higher animals that we may choose to select and examine. And that any organ which exists in any one of the higher animals will be found in man also if it be looked for. Even, strange to say, in cases where man has no use for the organ still he has it. For instance, man's external ear is motionless, he has therefore no use for the muscles with which the lower animals move their

ears, but for all that he has them. Again, all the apes use their feet, as well as their hands, to grasp with; they can all use the great toe as we use the thumb, that is, they can oppose it to the other toes and seize and hold sticks, nuts, or other things between the great toe and little toes, just as they or we can seize and hold small articles between the thumb and fingers. We have no such power, we cannot make use of our toes in this way, still every muscle which exists in the foot of the ape by means of which he executes the movements in question exists also in our feet; but we make no use of them, and can make no use of them. Did we ever make use of these muscles? If so, when? If we never used them why were they placed in our feet? Why should dozens of muscles be made and carefully placed and connected in our feet for no purpose? The muscles in question are now greatly atrophied for want of exercise. Were they created in this atrophied state, or were they created to be used, and have they since shrunk from want of exercise? Another instance: Cattle, horses, and many other of the lower animals have a broad flat muscle just under the skin of their neck and shoulders (a part of the body to which their tails will not reach), by means of which they shake the skin covering these parts and so drive away flies which have settled there. We also have that muscle in our body, it is called the *platysma myoides*, but we have no use for it, and could not use it if we wanted to do so, since from long inaction or some other cause its fibres have become in us incapable of contraction. Did we ever use that muscle? And, if so, when? If we never used it, why was it placed in our bodies. Once more: You all know that while we, in common with all land animals, breathe with lungs, the whole family of fishes breathe with gills. In our body there is a large artery called the *pulmonary*, which carries the blood from the heart to the lungs to be aerated. In fishes there is a corresponding artery called the *branchial*, which carries the blood from the heart to the gills for the same purpose. But the gills are much further from the heart and nearer to the head than are the lungs; it is therefore easy to distinguish by its position a rudimentary branchial from a rudimentary pulmonary artery, and rudimentary gills from rudimentary lungs. Now it is a fact that at a certain stage of the development of

an individual man, or of any other individual land animal, they have each and every one of them, both men and animals, rudimentary gills and rudimentary branchial arteries. These undeveloped organs are of course of no use to man or any other land animal; why then do they find a place in their bodies? Such anomalies as these might be mentioned by scores. I will refer briefly to just one more: You know that man has twelve pairs of ribs, that is twelve ribs on each side, but many other animals lower in the scale of creation have a much larger number. Many reptiles have twenty, thirty, even fifty or more pairs. But besides man's twelve ribs on each side he has running across the body below these in the situation in which other ribs would exist if we had them a certain variable number of white lines (technically called *liniæ albæ*). Anatomists are agreed that these white lines correspond to the abdominal ribs of reptiles. But will anyone tell me, on the supposition of man having been a distinct and separate creation, for what purpose they were placed in his body?

I have said that the great value of the study of medicine is not the cure or even the prevention of disease, but the liberation of the human mind, and you may now catch a glimpse of one way in which it effects this liberation. The fear of disease and death forces man to seek means whereby these may be warded off; this search leads, along with much else, to the study of human anatomy; in studying anatomy we encounter the anomalies to which I have just referred and innumerable others like them; in order that light may be thrown upon these apparently meaningless freaks of nature, general or comparative anatomy must be and is studied; a knowledge of this leads to such results as I have set forth; from these and other analogous indications flow the vast and splendid speculations which light up with starlike beauty the pages of such writers as Darwin, Spencer and Haeckel, whose radiance carried forward and increased from age to age, shall yet illumine the darkest recesses of nature.

(2nd.) The second series is the Histological, a large subject upon which only a few words can now be said. You are, probably, many of you, aware that each one of our bodies is built up of millions and millions of cells; every organ, every tissue, every part of us is composed of these minute, generally

spherical, bodies, thousands of which would lie on the point of a penknife. These cells are not by any means all alike; every organ, each tissue has its own kind of cell of which it is constituted, so that in the human body there are not only many hundreds of millions of cells, but there are several hundred different kinds of cells. As we descend the series of organic forms from man, the highest to the very lowest, we find that the lower we go in the scale the fewer different kinds of cells the animal has until we come to the very lowest of all animal forms, and we find that of these each one is composed of a single cell. Here, then, is another marvellous series: First, animals consisting each of a single cell; then animals consisting each of a number of cells, but all the cells of the same kind; then animals consisting of two kinds of cells; then of a larger and larger number of cells and of kinds of cells, until we ascend to man, whose body contains a greater number of different kinds of cells than that of any other creature.

But now comes a curious fact: Man's body (as well as the body of every living creature, animal or vegetable,) begins its individual life as an animal of one cell. This cell is multiplied by growth and division, and after a certain amount of development has taken place instead of one there are many cells all of one kind; then some of the cells grow (as it were) apart from the rest, and we have many cells of two kinds; as the embryo develops we have both a larger and larger aggregate number of cells, and a larger and larger number of kinds of cells, until we have at last the immense number of cells and of kinds of cells found in the full grown man.

So here again we have two series corresponding with one another: the infinite series, namely, of the different animal forms from the unicellular to the most multicellular, and the series through which the individual man passes from his origin as a unicellular living form to his million-celled maturity.

(3rd.) The third series to which I wish to direct your attention is the chemical. One of the first things we learn when we begin the study of medicine is that life is almost entirely a chemical process; that the body consists entirely of chemical molecules; that these are constantly breaking down and as constantly being renewed; that every act of which we

are capable, every motion we make, every thought we think, every emotion we experience, has for its physical basis chemical change; has, in fact, as its basis the chemical degradation, that is the death, of that molecule or those molecules which act; so that all movements and processes which imply or indicate life are, in fact, acts of dying—expressions of death. We are, in fact, each one of us, from moment to moment, not metaphorically, but actually, constantly dying, and as constantly being reconstituted. This is the essential process which underlies all life; not that of man only, but the life of all animals and of all plants. This process is what might be called vital chemistry, but vital chemistry rests upon, absolutely depends upon, organic chemistry, and this again as absolutely rests upon and depends upon inorganic chemistry; so that these two last named had to be mastered before vital chemistry could be successfully studied. It seems probable that life in all its forms, from the lowest up to and including man, is essentially nothing but the action, reaction and interaction—the construction and destruction of chemical molecules—a certain complexity of the molecule being the supreme if not the sole condition of life, and its higher and higher complexity being the measure of the elevation of the life of the tissue and of the organism to which it belongs. For as we ascend from the lower to the higher forms of life the complexity of the chemical molecule increases *pro rata* with the degree of elevation of the life of the tissue to which it belongs until we reach the highest of all known tissues, the gray matter of the human brain, which is made up of chemical molecules so complex that down to the present time it has defied analysis. The study of medicine, entailing as it did the study of the chemistry of all parts of the human body, necessitated therefore and led to the study of organic and that to the study of inorganic chemistry, this last, perhaps, the most important and far-reaching of all the natural sciences which underlie life. This, then, is another way, and a most important one in which the study of medicine forced men to the general study of nature and led to the enlightenment and liberation of the human mind.

We thus see that the study of man's body, supposing it to be successfully prosecuted, necessitates not only a study of

the other living forms below him in the scale of vital existence, but the study of dead or inorganic nature as well.

(4th.) And if we pass now to the fourth or Dynamic series we shall see that this is just as true of the forces which animate our bodies as it is of the material of which these bodies are built up. Just as the matter of which our bodies are composed is related to all other matter—is built up of dead matter and returns to dead matter again—so is it equally true that every one of the varied forces which reside in our frame, and which we call vital forces, is merely borrowed for a moment from the great ocean of force in the outer world, and when used is returned to that again. And this is true not only of the force which drives the blood through our arteries and veins, of the force which we exert with our limbs, and the force with which we breathe; but it is true also of these far more ethereal and (so to speak) human forces called thought, desire, emotion, passion and will. So true is all this that it is now well recognized that before the forces that make up the life of a human being can be in any radical sense comprehended it is necessary to understand not only the vital forces generally (those of the vegetable as well as those which belong more especially to the animal kingdom), but those of inorganic nature also.

When these last have been mastered we find that they all, motion, heat, light, electricity, magnetism, chemical affinity, are continually passing into one another; that the same unit of force is at one moment one and the next moment another of these; that they each have a definite value in relation to all the rest; that, for instance, so much motion is equal to (will produce) so much heat; that so much chemical force is equal to (will produce) so much electricity; that so much light is equal to (will produce) so much magnetism; and so on of them all. Not only so, but as with matter so with force. As far as our experience goes none is ever created and none is ever lost, but the total quantity in the universe remains always exactly the same. And just as light, heat, magnetism, motion and the other forces of the inorganic world are continually passing from one of these forms to another, so also in a living body are these inorganic forces becoming from moment to moment vital forces; and the vital forces are as constantly

reassuming their original non-vital character. So that whether we consider the materials or the forces that enter into the composition of living beings these are, the one as well as the other, in a state of perpetual flux, never for one instant remaining stationary. The same substance which was yesterday food is to-day a part of my living body, and to-morrow will be part and parcel of what we call the dead world. And the force which one moment ago existed within my brain as chemical affinity is now a thought, and in another instant will be heat. But what I especially wish to draw your attention to is that all vital dynamics, of which I have just presented a momentary glimpse, is a constituent and necessary part of the study of the human body and therefore of the study of medicine; and that that study involved and necessitated the mastery of the laws of the forces of the outer world; so that this is still another way in which the study of medicine has led to the intellectual conquest of nature and the liberation of the mind of man.

(5th) In still another series of facts we see the same truth illustrated. Man has not only a body but a mind as well. *Ab initio* the study of the human mind was part of the study of medicine. Before the time of Hippocrates physicians studied psychology and classified mental diseases, and ever since the healthy and the diseased mind have been among the primary objects of medical science. To throw light on this great subject all nature has been ransacked, but above all the mental operations of animals from the lowest to the highest have been explored and considered. And with this result, that here again we find two parallel series, the one in man and the other in animals, leading from the same point to the same point and each pursuing on its way the same route. Low down in the scale of animated nature mind has its deepest taproot in protoplasmic movements, in non-nervous adjustments, in partly nervous adjustments, and in nervous adjustments—then what may be called mind itself begins in the rudiments of sense, the faculty to feel pain and pleasure. With this faculty, or immediately after it, comes memory; then the primary instincts, as surprise, fear, and association by contiguity. As we ascend the animal scale we find successively added to these associations by similarity, jealousy, anger, play,

reason, affection, recognition of individuals, communication of ideas, sympathy, recognition of images of things as in pictures, understanding of words, dreaming, emulation, pride, resentment, love, ornament, terror, understanding of mechanisms, grief, hate, cruelty, benevolence, use of tools, revenge, rage, indefinite morality, shame, remorse, deceitfulness, apprehension of the ludicrous.

But now take the individual man, study him from his origin and you will find the same functions unfolded in the same order. Why? Why should my mind as well as my body begin as infra-human and gradually become human? And if it must begin as infra-human, why does it in its evolution follow the exact path which is pursued by the growing mind of a dog, an elephant, or a baboon? And why does it also resume and summarize in its growth, before it surpasses, the animal mind from its beginning in the lower forms of animal life to its apex in the tribes of the anthropoides? Here, again, you see are two parallel series for a knowledge of which the world is indebted to the study of medicine. And the study of these series in its far-reaching results, its transcendent revelations has done perhaps more than any other toward the elevation and liberation of the human soul. For the results which I have hinted at are only the germ of what may be called modern psychology—the science of the evolution of the human mind.

This science, which, as I have said, is a distinct outgrowth of medicine, considers first the human mind in its infra-human origin; then in its evolution in the individual from infancy to maturity, and its parallel evolution from the *alalus homo* to modern man; it then unfolds and describes, as far as may be, the full-grown mind of to-day, and shows how each of its hundred faculties arose into being and attained its present degree of development; gives the chronology of each and its relation to the others; and finally it teaches us, arguing from our past and our present, what we may expect the human mind to become in the future when time and the powerful logic of events shall have from the pigmy intellect and narrow heart of the present brought into being the free and soaring intellect; the tender, affectionate, strong and compassionate heart; and the aspiring, all-comprehending and all-justifying soul of the

future. As I have said over and over again, and as I cannot say too often, the tendency of the study of medicine is to give us free thought and free thinkers—and this before all else is the prime condition of human advance. Therefore, as Brown-ing says :

set free alike the soul in all,
 * * * * *
 We may not be doomed
 To cope with seraphs, but at least the rest
 Shall cope with us. Make no more giants God,
 But elevate the race at once! We ask
 To put forth just our strength, our human strength,
 All starting fairly, all equipped alike,
 Gifted alike, all eagle-eyed, true-hearted—
 See if we cannot beat the angels yet!

Newton said : *Natura non facit saltum*. No more profound or far-reaching truth was ever embodied in so few words. The inorganic shades off into the organic; plants and animals run together indistinguishably; invertebrate animals pass by imperceptible degrees into vertebrate; reptiles into birds; the anthropoid forms into man; barrier after barrier is broken down; the last and strongest between the lower forms of life and man—the barrier of mind and language—is to-day tottering to its fall, and soon the human intellect will sweep freely over an entire world reduced by itself from rugged incoherence to harmonious law and order; and for this liberation of the soul of man he may thank before all else the science of medicine.

The study of medicine, then, means the study of chemistry, biology and psychology. That is, the study of all life, including mind and of the molecular relations, combinations, and reactions which underlie life. If medicine has given us these vast sciences (and she certainly has), might I not well be content to stop here and rest my case, pointing to them and saying: Here, gentlemen, is the value of the study of medicine? But no, I cannot pause even here, for—I am forced to say it—the main value of the study of medicine remains still to be stated. That main value is not direct but indirect. Let me explain:

It was definitely shown early in the century by Auguste Comte, and later and still more exhaustively by Herbert Spencer, that chemistry underlies biology, that the latter

cannot be understood until the former is mastered : also that biology underlies psychology, and that, as before, the comprehension of the former of these is a necessary preliminary to the effective study of the latter ; by the same line of reasoning these great thinkers make it clear that a mastery of biology and psychology was an absolute prerequisite to anything like a scientific conception of sociology ; that is to say, we cannot understand the meaning of social facts nor of social relations until we have first made ourselves more or less familiar with the laws that govern the life of the individual.

It is not difficult to see in a rough way the truth of these propositions, for the mind being a function of a part of the body, and being influenced from moment to moment by the condition of the body, any one can understand that the body must be comprehended before the mind can be so. And mind being, as it is, an offshoot or prolongation of body, and depending on this for its very existence, it is easy to see there must be a close analogy between the laws of the two, and that that one of them which first came into existence must have had almost everything to do with establishing the laws for its own offspring. It is still more evident that a knowledge of mind must precede a right understanding of the laws that govern societies, since social movements of all sorts spring directly from the mental states, powers and aptitudes of the individuals who compose the societies.

As an example of the way biological and psychological knowledge influences social judgments, feelings and procedure, I may instance the change that is at present taking place in the views and feelings of mankind towards the degraded members of the social body, and in consequence the altered treatment these are receiving from their fellows. It is not long since lunatics were looked upon and treated almost as wild and dangerous animals, but a knowledge of psychology has totally changed our opinions and feelings in their regard, and has in the same degree altered our treatment of them. The same process is now at work upon our mental attitude towards criminals, and I wish here to call your attention to the extraordinary interest of this subject which has been of late years deeply studied almost everywhere except (strangely enough) by the English and among the English-speaking peoples. In

France, what is called criminal anthropology has been exhaustively studied and written upon by Despine, Joly, Tarde, Lacassagne, Ferre and others; in Italy by Lombroso, Broca, Ferri, Garofalo and Marro; in Germany by Krafft-Ebing, Knecht, Krauss, Flesch and Benedict; in Spain by Salillas and Vera; in Holland by Van Hamel, in Belgium by Quetelet, and in Portugal by Lucas. Also, it is said to be studied with avidity in Spanish South America, in Russia, and in Poland. Among English-speaking peoples alone during the last fifteen years there is no scientific work on the subject to be recorded.

It is now understood by those who have studied the anatomy, physiology and psychology of the class called criminals that these, in place of being persons (as formerly supposed) who might, if they liked, be good citizens, but who have wilfully elected to lead vicious lives, are, in fact, imperfectly developed organisms who, being defective *ab initio* in some one or more of the elements of mind that go to make up an average man or woman, are driven to the life that they adopt by a fate as inexorable as destiny itself, that they are rarely, if ever, proper subjects for moral reprobation, but are simply imperfect human beings whose instincts and acts are to be, not punished, but educated and (in the meantime) guarded against by the rest of the race.

A criminal (speaking broadly and roughly) is simply a person who was born with a defective moral nature, just as an idiot or imbecile is a person who was born with a defective intellectual nature, just as a person who is colour blind is an individual who was born without colour sense. The philosophy of all these cases is the same, it is covered by the word *atavism*—that is, a lapse to a prior condition. There was a time (not so long ago, either) when our ancestors had little or no moral sense, comparatively little intelligence—no colour sense—no sense of musical harmony—no sense of fragrance. Individuals born to-day, lacking any one of these, are simply cases of *atavism*, they are individuals from whose constitution certain previously acquired qualities have been, by some accident, dropped, they are not monsters, nor are they something new created by a freak of nature. And when a man is born with little or no moral sense and so commits acts perfectly natural to him, but which, perhaps, intensely shock the feelings of

other persons who have the moral sense well developed, he is, properly speaking, no more a subject for moral reprobation than is the person who is born with a defective intellect, or the person who is born without the sense of colour, melody or fragrance. Such a person is no more a proper subject for punishment than is an average man, because *his* life was not as pure as that of the best man that ever lived; no more, indeed, than is the best man that ever lived because *his* life was not far better still than it had been.

Towards the class called criminals the mental attitude of the race is now markedly in process of change. This class has been receiving, as I have said, of late years an immense deal of attention, and there is no doubt that the old revengeful feelings towards the members of it must rapidly die out on account of the establishment of truer views as to the origin and status of these people. Within the last half century it has been clearly shown that criminals constitute a distinct class just as clearly differentiated from the rest of society as are lunatics, idiots, or deaf mutes: that what may be called the criminal constitution once acquired is inherited—transmitted from father to son, just as is lunacy, idiocy, phthisis, or asthma, or just as stature, features, figure, complexion, Mental traits or bodily constitution are transmitted; that a person born with the criminal constitution can no more lead what we call a good life by his own unaided endeavours than an idiot can lead the life of a mentally well equipped individual; that such a person is born with such a mental bias or defect that criminal courses are as natural (and so to speak *as right*) to him or her as are industrious and respectable habits to a person born under better auspices; and further, it has been made clear that although such a mental constitution is often inherited, yet that it may and often does originate in the midst of a family apparently free from any such taint.

A person born with the criminal constitution does not need to be damned either by God or man—he is damned already. He does not need to be punished—he is punished already. To such a being all the higher, purer, and better instincts of the race are denied; he is shut out from all enjoyments but the grossest and most sensual; while at the same time he has a more than ordinary capacity for fear, hate, envy, and all other

feelings which are in themselves sources of wretchedness to the person in whom they reside and to all who are brought into relationship with him. Such a being is more deserving of pity than is any other person whatever; his fate is more to be deplored than that of the lunatic, idiot, imbecile or slave. The feelings of horror and dread with which society has looked for centuries upon lunatics are sufficiently disgraceful to it, but they are not half so much to be deplored and deprecated as are the feelings of abhorrence, aversion and hatred with which it has looked down in lofty and virtuous scorn upon the wretched criminal. All this now is being gradually changed, and the time is coming when punishment of members of this class will be as much a thing of the past as is that of lunatics at the present time. As long as there are criminals doubtless society must protect itself from them; this it will not fail to find means of doing; but the day is surely coming (and is perhaps not far distant) when the gallows, the whip, and the jail will be as obsolete as are to-day the stake, the thumbscrew and the rack, or, as are in the case of the lunatic, the chains, the scourges, the dungeons, and the other multiplied horrors of old Bedlam.

All this alteration of view and sentiment; all the inestimable enlightenment, and all the improvement in moral feeling to which I refer, and a hundred times more of which there is not now time to speak, do we owe (not entirely, of course, but largely) to the study of medicine.

Auguste Comte early in the century showed that the whole body of human knowledge—that is, all science—could be arranged in what he called a hierarchy. At the bottom of all, as basis for all the rest, lies mathematics, composed of its three great divisions, the calculus, geometry, mechanics, that is the laws of number, of space and of movement. The laws of number are the most universal of all, since number is universal; next to the calculus comes the law of space, and on these rest the laws of motion; for we can have no motion without a certain number (one or more) of things to move, nor can we conceive of motion without space in which to move. Upon mathematics rest astronomy, upon astronomy physics, upon physics chemistry, then in turn as we ascend the scale come biology, psychology, sociology, and on the top, to crown the

whole, morality; the principle of the classification being that as we ascend from science to science each becomes less and less simple and general and more and more special and complex. Now a very little consideration will show that the science of astronomy could not have been founded until mathematics had made a certain progress, and that a constant expansion of mathematics was a necessity if astronomy was to advance. So of chemistry and biology. So of psychology and sociology, as I have already explained. See now the practical consequence of this great law. In the early days of exact science the Greeks and then the Arabians made considerable progress in mathematics and astronomy. Later Galileo, Bacon, Descartes, Torricelli, Pascal, Mariotte, Laplace, Newton and a host of other workers founded physics, and not until after that could the great modern science of chemistry be established, nor biology until after chemistry, and so on. Where now should we have been to-day without the study of medicine? As soon as the time was ripe, mathematics, astronomy and physics being founded, the great army of thinkers, in which it is our chief glory to be privates, spurred on by the suffering of the race, and led by such generals as Boerhaave, Cuvier, Bichat, Hunter, Lamarck, Harvey, Haller, attacked chemistry, biology and psychology with what glorious results we know. Having laid the foundations of these, it became for the first time possible to begin to reduce to law the phenomena presented by human beings living in a social state, and the great science of sociology was founded early in this century by the man who established the hierarchy of the sciences, Auguste Comte. What then has been and is the value of the study of medicine? Simply this, that it has, from the point of view of the intellect, made it possible to found and establish modern civilization.

But my time is nearly finished and I must make an end. I began by saying that pain, sickness and death are good friends to the human race and not enemies as often supposed, and I think I have maintained my thesis. I have shown that without them there would be no motive capable of driving men to an effective study of their own bodies. I have shown that to understand the human body, not only itself but the bodies of other animals had to be studied. That the growth

not only of individuals but of species, orders, and families as well, had to be reduced to law and comprehended. That a knowledge of histology, chemistry and dynamics as well as the basic sciences of the hierarchy were all absolute prerequisites to the successful study of human physiology, and that finally something like a complete intellectual mastery of the human body (in outline at least) was essential to the establishment of the study of psychology and to the comprehension of that vast group of sciences which are comprised under the broad general name of sociology. Medicine is therefore the key and the doorway to all the loftiest, most interesting and most important branches of human knowledge. The study of medicine has been above all other things the origin and source of human enlightenment. It has been one of the principal agents in the enfranchisement of human thought. It has more than perhaps any other agency tended to and assisted in the ennoblement of man.

Gentlemen, I have done my best under the circumstances to show you in faint outline upon how proud a field you are entering, how glorious a heritage has descended to you from the work of the great pioneers of our grand profession; but remember this, it is only yesterday that this vast meadow became ready for the scythe, and so far only a few swarths of the good grass has been cut. Take off your coats, then, and buckle to it. The labour is great, but not greater than the reward. Does it seem impossible to master so much and then advance beyond? Never think so. Resolve to achieve and you will achieve. Resolve to conquer and the victory is half won. At the least, work—work while it is yet day with you, join in the good fight, the war for the liberation of the human soul. The enemy is not far to seek, he is close at hand; his name is ignorance, prejudice, superstition; it is for you, come fortune or misfortune, sorrow or joy, honour or dishonour, to spend your days in hand to hand strife with him, and at the last, in the glowing words of a noble poem:

At least not rotting like a weed,
But having sown some generous seed,
Fruitful of further thought and deed. .

To pass when life her light withdraws,
Not void of righteous self applause
Nor in a merely selfish cause.

In some good cause not in your own
To perish, wept for, honoured, known,
And like a warrior overthrown.

Whose eyes are dim with glorious tears,
When soiled with noble dust he hears
His country's war song fill his ears.

Then dying of a mortal stroke,
What time the foeman's line is broke,
And all the war is roll'd in smoke.

THE ADDRESS IN SURGERY.*

BY A. E. PRÆGER, M.D., OF NANAIMO.

Mr. President and Gentlemen,—The eminent surgeon who a few weeks ago delivered the address in surgery at the meeting of the British Medical Association, commenced with the following quotation from one of his favourite authors: "There are duties difficult of fulfilment pertaining to every position in life, and there are duties attached to public professional life from which no man can assume to himself the right to shrink, with whatever diffidence and incapacity they may be undertaken."

I have first to express my gratitude to the President of the Canadian Medical Association for having done me the great honour of inviting me to address you to-day, and then to plead the above quotation as my excuse for appearing before you (and thereby excluding one from among many who could have filled the time more to your profit and entertainment) with a task which, I must myself confess, has been imperfectly fulfilled.

I invite your attention to the consideration of certain injuries of the spine, especially fractures and fracture-dislocations.

A perusal of the leading text-books can hardly fail to produce the impression that the vertebral column has not received that attention from the writers which its importance would justify. It is true a great deal has been written on the subject of so-called "railway spine," an inappropriate term intended to include the various injuries to which the railway passenger's spine is liable, and which differ in no material particular from the injuries ordinarily met with. These railway injuries have a special interest

* Read before the Canadian Medical Association, at Montreal, September, 1891.

only from the fact that they frequently give rise to litigation, and the views of the writers lose much of their value, because they are biassed either in favour of or against the railway companies.

Among the many and various injuries which come under notice in a large colliery practice, probably the most frequent, and those which cause the surgeon most anxiety, are injuries of the back. That these injuries are of common occurrence is readily accounted for by the fact that while the miner is at work this part of his body is more exposed to violence than any other owing to the position he is forced to assume.

Sprains or wrenches and contusions are of constant occurrence and present themselves in all degrees of severity, from the most trivial to the most severe. The most frequent cause of the former is the sudden attempt to lift too heavy a weight—as, for example, the effort to restore a derailed full box of coal to the track, or sudden and excessive bending due to the application of violence; the contusions are generally due to falls of coal or rock.

The more one sees of the severer forms of these injuries, the more one appreciates the difficulty of making an accurate diagnosis, without which, of course, a prognosis cannot be given. To the inhabitants of the part of the globe in which I am practising an immediate prognosis appears to be the matter of prime importance.

The surgeon who cannot foretell definitely the chances of and time required for recovery is likely to find himself, sooner or later, supplanted by a herbalist or spiritualist; these gentlemen have none of the hesitation common to practitioners of the regular school in expressing an opinion, and, strange to say, they are always right. If the patient dies, it is from the wrong treatment of the regular practitioner; if he recovers, it is due to the superior knowledge of the quack.

The prognosis is rendered difficult by the fact that the symptoms frequently do not immediately disclose the true severity of these cases. For example, one meets with cases in which, when first seen, there is loss of power in the legs, inability to micturate

or defæcate, and yet within a very short time recovery takes place, clearly showing that this pseudo-paralysis was only set up by the patient's dread of the pain caused by moving, or (according to Page) "the muscles and ligaments may have been so placed *hors de combat* as to lead to great difficulty in micturition and defæcation, and which indicates how largely the ease and perfection of these acts depend upon the functional integrity of the muscles which support the spine."

In another set of cases these symptoms are persistent, while in yet another class the grave symptoms may not appear until some time after the accident, and then the probability is they betoken and are due to bruises of the cord, effusion in the membranes, or to extravasation of blood, caused, probably, by rupture of the posterior common ligament, "for it must not be forgotten (says Page) that some of the ligamentous structures of the column are in close proximity to the spinal canal and the blood-vessels within it. Laceration of the posterior common ligament cannot occur without risk of injury to the spinal membranes, not immediately, perhaps, by implication of them in the same lesion, but by extension of inflammation from the injured part.

. . . . So also the ligamenta subflava are in direct relation with the meningo-rachidian veins, and severe laceration of the one may be associated with rupture of the other. Hemorrhage may thus arise within the spinal canal, not of itself perhaps sufficient to cause appreciable symptoms, but yet enough to be the starting point of inflammation about the membranes, and, it may be, of ultimate degeneration of the spinal cord. Herein lies the danger of any form of accident whereby the spinal column has been inordinately bent, that some of the structures, which are contiguous to internal parts, may have been hurt, and there are no special signs or symptoms at hand to show that such has been the case."

The necessity for absolute rest after any injury to the spine, no matter how trivial it may at first appear to be, cannot be sufficiently emphasized.

Every case should be dealt with as though it were serious until sufficient time has elapsed to prove the contrary.

Page, who writes principally in connection with "railway spine," advises that, after sufficient rest has been given, the later treatment must consist, as in the case of the larger joints, in movement rather than in fixation and enforced rigidity of the affected part.

Doubtless in many of these cases the surgeon's greatest difficulty is in forcing the patient to move, but I fancy that it makes no little difference to the time required for recovery when a lawsuit is pending against a wealthy railway company and the patient knows that the jury will probably, in assessing damages, take into consideration the duration of his illness.

Among a class of men who have to depend entirely on their own exertions for their living, and who have not the prospect of receiving compensation for their sufferings, I find my greatest difficulty has been in enforcing rest, and that there has been little or no need subsequently to insist on movement.

Fracture of the spinous processes unaccompanied by lesions of the cord is not a very serious matter, and presents no points of special interest, and has not given rise to discussion as to its mode of treatment, and therefore, in speaking of fractures and fracture-dislocations, I shall allude only to that class of cases in which the continuity of the whole vertebral column proper is severed, and in which there is evidence of injury to or interference with the functions of the cord.

The early teachers of surgery knew of the existence of these injuries and wrote on the questions of treatment by suspension and resection. Hippocrates records his opinion in the following manner: "Succussion on a ladder has never straightened anybody as far as I know, but it is principally practised by those physicians who seek to astonish the mob—for to such persons these things appear wonderful, for example, if they see a man suspended or thrown down, or the like, and they always extol such practices and never give themselves any concern whatever may result from the experiment, whether bad or good. But the physicians who follow such practices, as far as I have known them, are all stupid."

Æquieta urged that the surgeon should, if possible, attempt

to extract the compressing bone by incision (having first warned the patient of his danger), or if not, should soothe the patient by antiphlogistic treatment.

Ambrose Paré recommended extension and rotation in dislocations of the cervical vertebræ, and extension with pressure in those of other regions. In cases of fracture, if the processes only were broken they were to be replaced; if entirely separated from the periosteum, they were to be extracted. If paralysis were present, an incision was to be made and the fragments extracted.

Heister taught, "in cases where the cord is ruptured death is almost sure to follow; but as it seems cruel to neglect the patient on account of certain death, it is preferable to attempt something, though vainly. The surgeon should therefore denude the injured part with his scalpel and remove the fragments that press upon the cord."

Many of the teachers of the art of surgery to-day, though they differ widely in their opinions on "railway spine," and on other injuries and diseases, are singularly unanimous in condemning the operation of resection, though they are more tolerant of the milder method of treatment by extension.

Now, gentlemen, I am well aware that I may appear to some of you guilty of heresy in venturing to criticise the writing of the eminent authorities I am about to quote, but I submit that the subject is altogether far too important to be allowed to rest on the rather off-hand opinions they have expressed in connection with the question of operative interference.

Holmes, in his work entitled "Surgery, its Principles and Practice," says: If the displacement cannot be remedied by extension and counter-extension, can it be surgical operation? The proposal to trephine the spine—*i.e.*, to attempt, in one way or another, to elevate the portions which have been depressed on to the spinal marrow—has been sustained by the supposed analogy of depressed fractures of the skull, and has received the support of many famous surgeons. It is not becoming, therefore, to speak of it with disrespect. But the assumed analogy is obviously a very deceptive one, and I can find no evidence that

the operation has ever been really in any degree successful ; while, if unsuccessful in its object, it must tend to hasten death, for it is undeniably a very severe proceeding, exhausting the patient by hemorrhage, when the rational indication of treatment is to spare his strength in every possible way. There is, in fact, little analogy between the indications which lead the surgeon to trephine the cranium and the conditions present in almost every case of fractured spine with displacement. In cases suited for the operation of trephining the skull, the brain is compressed at a single definite accessible part (of no great extent compared with the volume of the brain) by a small portion of depressed bone or by a foreign body ; but its own proper tissue is believed to be only very slightly or not at all injured. In fractures of the spine, on the other hand, the displacement is generally due to projection of a portion or the whole of the body of a vertebra into the spinal canal at a part utterly inaccessible, crushing and disorganizing the whole spinal cord to an extent which cannot be remedied by the removal of the cause which produced it. Very often the cord is entirely divided at the seat of fracture. No judicious surgeon would think of trephining a skull if he believed that the brain was hopelessly lacerated—far less if he thought that there was in all probability a large mass of bone sticking into it at the base of the skull.

Dr. Brown-Séquard tries to meet this argument by urging that though the lamina and spinous processes are the only parts which are accessible for removal, yet the removal of these from behind will liberate the cord from pressure of the displaced bone in front. Even if this were so, however, it would leave a rugged fragment irritating the cord, and the prospect of benefit would not justify the additional irritation produced by the operation.

It is quite true that there are cases in which the displacement of bone is less than that shown in the figure, and that the cord is not always hopelessly disorganized.

(The figure alluded to is a drawing of a case of fracture and dislocation of the seventh cervical. The intervertebral substances between the sixth and seventh cervical vertebræ was ruptured, and their laminæ separated from each other by rupture of the

ligamenta subflava—i.e., the fracture was complicated with dislocation, as so frequently occurs. The cord in this case was entirely disintegrated from a point opposite the fifth cervical to the third dorsal vertebra). But it is also true that in such cases—i.e., where the cord is not hopelessly disorganized—the patient has a good prospect of survival, and it seems that under such circumstances an operation is more likely to prove the starting point of inflammatory softening than to cure the patient.

. Exceptional cases may occur in which, from the nature of the accident and the appearance of the part, the surgeon may think that only a small amount of bone is implicated in the injury, and where he may determine to give the patient the poor prospect of relief which this operation holds out; but in general it will only hasten the end.”

Page, writing on the same subject, says: “Accurate diagnosis is, if possible, of supreme moment. That a grave injury has been inflicted on the cord can be told at once with only too much certainty, for on that point the immediate paraplegia leaves no doubt; but we have to discover how and where the lesion has been caused. The point where can be learned by application of our knowledge of nerve distribution and by deciding the line—often a hyperæsthetic line—where palsy begins; but the manner how, whether by instant crush from displaced bones, by the simple pressure of extravasated blood, by severe bend and therefore disorganization of the cord, or by simple concussion of the cord, is frequently a matter of the greatest uncertainty. We have to fall back upon a history of the accident, and upon a careful examination of the spine itself, to feel or see whether there be any projection or displacement obviously discoverable by physical signs. . . . The surgeon may remove pressure from the cord, and give the best chances of recovery. If the cord itself be undamaged, and the paraplegic symptoms be simply due to the pressure of displaced bone upon it, then—as the record of several cases has proved abundantly—the symptoms may at once subside, and recovery may in the end ensue, when time has been given for the repair of the spinal injury. And even when there is something worse than simple pressure, and the

cord is being lacerated by some sharp fragment of bone, the reduction of displacement may perchance release the cord and thereby lessen the risks of inflammation and add to the chances of life."

Now, it is evident from this that Page emphasizes the importance of early diagnosis, and, if possible, the freeing of the cord from pressure, yet when he comes to deal with the question of trephining the spine (and here I would venture to suggest that the term trephining is improper, and that the proceeding should be called resection or exsection), we find him saying "that the operation has made no progress in surgery, nor is it likely to do so. In cases of fracture dislocation the cord is usually damaged irreparably; and when permanent pressure is exerted on the marrow by displaced bone, exact diagnosis is often impossible, and the physical difficulties of removing or elevating the displaced vertebra would be almost insuperable. We should add gravely to the dangers of the case by laying open the spinal canal. Here, again, a too ready assumption of analogy between brain and spinal cord led in all probability to this operation, which a clearer understanding of the physical differences in the situation of the two organs would have shown to be little feasible, and less likely to be followed by good results. It is an operation not within the range of practical surgery."

Liddell quotes the first recorded case in which the operation was performed by Cline at St. Thomas' Hospital on June 16th, 1814. The patient, a man, had fallen from a second story window the day prior to his admission into the hospital and was paraplegic. The notes of the case state that the attempt to remove the eleventh vertebral arch with a circular saw proved ineffectual, that a chisel and mallet and trephine were then employed, by means of which the separation was effected. The operation was considerably embarrassed by the unfitness of the instruments, and occupied considerable time, but afforded no relief, and the patient died three days after. Liddell, commenting on this, sums up as follows: "Mr. Cline himself candidly stated that he thought the operation had hastened the death of his patient. The lesions for which he operated consisted of

fracture of the body of the eleventh (to which the fragment of the twelfth still adhered) forward and slightly downward, and extensive laceration of the spinal cord. He removed two spinous processes and the laminae of the twelfth dorsal vertebra. The foregoing abstract shows the true character of this operation, the difficulties which attend its performance, and its positive harmfulness, as well as its inutility, more clearly and in fewer words than any disquisition on the subject could do. The operation of resection or trephining is unjustifiable because it does not offer a reasonable prospect of improving the patient's condition in any case, while on the other hand there is always reason to fear that it may increase the chances of a fatal termination."

I have quoted somewhat at length the opinions of recent writers, because it bears out, in my opinion, what I stated with reference to the spinal column having been neglected. These are the opinions of eminent men, but I propose to attempt to show that they are not well grounded.

Liddell's judgment against the operation may, I think, be disposed of in very few words. He bases his opinion mainly on Cline's case—a very ancient one—performed as far back as 1814, with instruments admitted to be unsuitable, when the physiology of the cord was less understood, and when surgery did not occupy as high a scientific position as it does to-day.

We are told that the proposal to elevate the portions of bone which compress the spinal marrow has been sustained by some supposed analogy of depressed fractures of the skull, and effort is made to show that the analogy is wanting. Granting, for the sake of argument, that that is so, does that of necessity prove that the operation is unjustifiable? I venture to say it proves nothing of the sort, and that there is no greater need to establish the analogy here than there is to prove it between stone in the bladder and a cyst of the broad ligament in order to justify the ordinary surgical measures adopted in those cases.

The fear of hemorrhage is held up as an obstacle. We are better equipped than we were in Cline's day, and hemorrhage should no longer be the bugbear of the surgeon; moreover, this fear is more imaginary than real. We are told that no judicious

surgeon would think of trephining the skull if he believed that the brain was hopelessly lacerated, or would remove a large mass of bone if he found it sticking into it at the base of the skull.

Of course this sort of argument is meant to be very effective, because the moment one dissents from it one lays oneself open to the charge of being injudicious. But I should like to ask how is the judicious surgeon to know for a positive fact that the brain is hopelessly lacerated (in ordinary cases) unless he does trephine (because, of course, judicious surgeons should not guess); and, again, whether he would be very injudicious if he did remove the piece of bone sticking into the brain at the base of the skull? The patient's chance would be nil if he left it, while if the surgeon removed it his patient could not be in a worse position, and he might possibly have one chance of recovery in ten thousand. Then as to the objection that if the operation is performed it will leave a rugged fragment irritating the cord, this is surely visionary; if it is true of the operation on the spine, why is it not the case in the skull, and why do not the same authorities proclaim against that also?

I might also ask, why do they compare the most hopeless and most extensive injuries of the cord with ordinary depressed fracture of the skull? Would it not be just as reasonable to say that amputation for injuries is unjustifiable because some cases of compound comminuted fracture are hopeless from the first?

The best answer to Page's assertion that the operation is beyond the range of practical surgery is, that several cases in which it has been performed have lately been reported.

If the reasons I have quoted are all that can be urged against it, I think that an exceedingly weak case has been made out, for they are misleading and not supported by actual facts.

Were we to accept unquestioned the opinions of the so-called authorities, no matter how eminent they are, surgery would never progress; and in this connection it is only necessary to remind you how bitterly they opposed ovariectomy, and left it for those who were at that time certainly not in the front rank to perfect its details; and even to this day there are those among them

who declaim against what they are pleased in a contemptuous manner to describe as the "mutilation" or "castration" of women.

It is not long since that Lawson Tait found it necessary to urge the claims of the peritoneum and to point out the anomaly of having one system of surgery for the remainder of the body and a different one for that portion of it in connection with which he has immortalised himself.

In the same way may we not claim this measure of justice for the vertebral column, and that, at all events, until a sufficient number of cases have been observed and recorded judgment shall be reserved, and that the efforts of surgeons to save the lives of those who are suffering from these terrible injuries shall not be branded as unjustifiable. The surgeon's first duty is to try at all hazards to save life, and in desperate cases, which in all probability will have a fatal termination, surely it is justifiable to make the attempt even if success should be only as one to a thousand.

The experiments of Brown-Séquard show that union can take place in wounds of the cord, and that its functions may be restored. The experiments of Masins and Van Lair show that it possesses great reparative power; they divided the cord in frogs, and at intervals of from two to four months it was found that sensibility and power of motion was restored.—(Liddell in Ashhurst's Surgery.)

Andrews says: "It is not to be inferred that complete recovery cannot take place after considerable violence has been done to the cord substance as well as the membranes, provided the source of irritation or compression has been completely removed. This *must be* true of slight lacerations, since it has been observed clinically in actual wounds of the cord substance."

Meryon describes a case in which the "spinal canal was penetrated by a knife between the tenth and eleventh dorsal vertebra and the cord partially divided, so that there was escape of spinal fluid and paralysis of parts of the body below. The patient recovered in two months. Many such cases of complete or partial recovery have been recorded which show that reparation is possible in the nerve structure under favourable conditions."

I do not wish it to be understood that I am urging the advisability of resection in every case of fracture or fracture-dislocation of the vertebræ; nothing is farther from my intention, for I believe there are cases in which the compression can be relieved by carefully applied extension. Out of a number of cases which have come under my care during the last few years (all with the exception of two being the result of direct violence), I have employed it with success in three, in all of which the fracture and displacement were easily recognizable, and in all of which complete paraplegia followed immediately on the injury. I do not propose to weary you with notes of all these cases, but will briefly mention a few facts in connection with one in which the injuries extended from the third to the seventh dorsal vertebræ. The patient, a Chinaman, while walking down a steep incline in the mine, was struck by some runaway loaded cars travelling at great speed. He was just making the attempt to get out of their way when they struck him, and jammed him against a prop. He was picked up and carried out of the mine, and when I saw him in his little shanty (five miles from any house), he was suffering from great shock and completely paralysed below the site of the injury. There was great displacement of 6th, 7th and 8th vertebræ. His abode was hardly such as one would have chosen for the treatment of a severe injury, his bed simply a few boards covered with a mat. At the end of two days, having meanwhile confined my attention to catheterizing him regularly, for I had looked on his case as hopeless, and a large bed sore had already appeared on the buttocks, I determined to try suspension. Having no costly apparatus, I had to suspend him from the rafter, and then made extension from his pelvis and applied a plaster-of-Paris jacket, which he wore five months. At the end of three weeks paralysis had quite disappeared, he made a good recovery, and is now following his ordinary occupation.

I do not commend the method of suspension adopted in this case, and believe a safer and just as effectual one to be by means of a hammock. If extension and counter-extension reduce the deformity and relieve the symptoms of pressure, absolute rest will probably be all that is required to complete the cure.

But if extension fails to relieve the displacement, or, having relieved it, the surgeon has reason to fear that the cord is still subjected to pressure, I do urge that in such case the ordinary surgical principles be applied to the cord and that it be freed with the least possible delay, and I do so for the following reasons:—

1. It is sound practice to relieve pressure wherever it occurs.
2. That the operation, properly performed, with suitable instruments and under aseptic precautions, is not of itself a source of great danger, and that the danger to the cord from pressure far outweighs that of the operation.

3. That under suitable conditions—i.e., when the cord is relieved from pressure—a laceration even to complete severance may unite and its functions be re-established.

4. That the patient's chance, if left unaided, is very slim, and that if resection proves successful in saving but one in a hundred its justifiability is established.

5. That just as no obstetrician, in dealing with a shoulder presentation, waits for "spontaneous evolution," but completes delivery on rational principles; so the surgeon should not trust to luck or expect nature to do more than her fair share.

I have twice been called on to perform resection, and although I cannot tell you that either of the patients live to-day, I shall not hesitate to urge the importance of the early freeing of the cord from pressure whenever another case presents itself.

The first was that of W. R., aged 32, working on a cage in the shaft of a mine. On July 6th, 1889, owing to a sudden jerk of the cage, he was thrown out violently while bent nearly double, and while in the act of falling was struck by the cage and pinned between it and the timbers of the shaft. There was a well-marked fracture with great displacement, extending from the tenth dorsal to the first lumbar vertebra. Paraplegia was instant and complete. Moderate extension was applied without effect. Operation was advised, but the patient would not consent. Although placed on a water-bed, bedsores rapidly appeared, and in spite of strict attention to the bladder a low form of cystitis was set up. On Sept. 19th (six weeks after the in-

jury), owing to his miserable condition, he consented to operation. The spinous processes and laminæ were removed and the cord exposed. It had been subjected to great pressure and presented a shrunken appearance. The operation wound and bedsores speedily healed, and the patient regained control over his sphincters. For a short time he appeared to regain some slight power of movement in his legs, but this was gradually again lost to him. He passed out of my hands about a year after the operation, and survived it altogether a little more than eighteen months. If it did him but little good, it certainly did no harm, and the result might have been different had the operation been performed before permanent change had taken place in the cord.

The next case was that of J. A., who, while mining on Dec. 6th, 1889, had about half a ton of coal fall on his neck. Paralysis was immediate. Respiration entirely diaphragmatic. Consent for operation was withheld until the third day (Dec. 9th). The spinous processes and laminæ of the fifth, sixth and seventh cervical and first dorsal were removed, as there was pressure on the cord. The membranes were opened and a large quantity of fluid liberated. After the operation the breathing was distinctly costal. The same evening the reflexes were re-established, and he could feel his feet and legs touched. On going to see him the next morning I learned that during the night he had regained so much power that he turned over in bed and died suddenly.

I could not get permission to hold a post-mortem, so I am reluctantly forced to the conclusion that his end was possibly due to a great want of foresight on my part in not applying some apparatus which would have rendered movement impossible. Had I done so I might have been in a position to report a case of recovery; as it is I can only say that the importance of immovable apparatus (which I had thought I fully understood and appreciated before) is indelibly fixed on my memory. The fact is, I was unprepared for such rapid amelioration, and I have little hesitation (except the feeling of sorrow at having to confess an error) in reporting this part of the case, because I feel that our failures are far better instructors than our successes.

ADDRESS

READ BEFORE THE MEETING OF THE MONTREAL MEDICO-CHIRURGICAL SOCIETY, OCT. 23RD, 1891.

BY THE RETIRING PRESIDENT, DR. FRANCIS J. SHEPHERD.

Gentlemen,—I must first heartily thank you for the great consideration you have extended to me during my occupancy of the presidential chair of this Society. I know that I have often erred on the side of strictness in my rulings, and may at times have irritated some of you. This course of action I did not pursue from any personal motive, but in what I considered the best interests of the Society. I have also, during the year, endeavoured to be punctual in commencing work, and when it was commenced, to continue it to the end, without letting side issues obscure and obstruct it. Under the mild rule of my distinguished successor, Dr. Buller, you will regain your equanimity, and by his careful and skilful steering will be guided into quieter havens, and there feed on the scientific food so richly provided for you.

The year just expired has been an eventful one for this Society and for medical science at large,—an eventful one for this Society for several reasons. First, because it had been marked by the advent amongst us of a goodly number of our French brethren, who, with that spirit for which they are so famous, preferred joining an already established English-speaking Society, in which the proceedings were carried on in, to them, a foreign tongue, to establishing a society of their own. This step on their part is the proper one, and emphasizes the fact that in the republic of science, and medical science particularly, there is no distinction of nationality, language or creed. Such unions with our brethren will greatly tend to break down the barriers which it would be foolish to deny have been raised up between us, and make us proud to be called by the common name of Canadians. A second reason which makes this a memorable year is a most melancholy one. On no less than four occasions has it been our sad duty to pass resolutions recording our esteem and respect for members deceased. Two of these had been honoured with

the highest post it is in your power to bestow—the presidential chair—and all had done good and honest work for the Society, as the records will attest.

The first to leave us was *Edward Henry Trenholme*. For years he was an active member, reading numerous papers and entering into all the discussions. He graduated in 1862 from McGill University, and soon established himself in successful practice. He was a man of ability and great surgical daring, of no small amount of originality in the department of gynecology, which he made his special study. He contested with Battey the priority of the operation of removal of the ovaries for the cure of the more chronic forms of diseases of these organs, and in many other ways made himself known to the profession abroad as a pioneer in certain departments of gynecology. He had his faults, but all must concede that he was devoted to his profession and did what he could to further its advancement.

The next member for whom we had to mourn was a much younger man, but one whose performance was already considerable, and who gave high promise of the accomplishment of greater things in the future. All who knew *Richard Lea MacDonnell* as intimately as the speaker could not help loving him. Those in trouble could wish for no kinder friend, and the good deeds he did were not proclaimed from the housetops. He was the soul of honour, and could not, if he had tried, have done a dishonourable act. In the young men commencing practice he was especially interested, and was at all times their friend. The students who were so fortunate as to be under his charge could not help feeling his influence for good, for he inspired all with a high sense of their duties in the profession they had chosen. Dr. MacDonnell graduated in 1876, and after a year abroad became connected with the teaching staff of McGill University. He at the time of his death had earned a solid reputation as a careful, exact, and skilful teacher of clinical medicine. He read many papers of great value before this Society, and when present took part in the discussions, to which he always added much interest. He was the first to draw attention to the absence of the patellar reflex in diphtheria, and his paper on the symptoms of *Tracheal*

Tugging in Aortic Aneurism, since its publication in the London *Lancet* last winter, has attracted much attention. His paper on *Typhoid Fever*, read before this Society over a year ago, was a good sample of his honest, painstaking, and accurate work. At the time of his death he was engaged in writing an important section of a new work in the Practice of Medicine, edited by Prof. Pepper. If there were more Richard MacDonnells in the profession, both its tone and general status would be much higher than at present. A strong man has gone from amongst us whose memory will long survive, and whose influence will long be felt.

Soon after Dr. MacDonnell's death we had to assemble again for the purpose of offering our tribute to the memory of *Thomas Anderson Rodger*, who was cut down in the prime of his manhood when he apparently had many years of good work still before him. He graduated from McGill University in 1869, and was soon engaged in a large and lucrative practice. He was a man of action, and had many devoted friends, his geniality, bonhomie and heartiness involuntarily attracting many to him. As a practitioner he was most successful, being endowed with a huge amount of common sense and tact, which, united with good abilities, ensured his success. As surgeon-in-chief of the Grand Trunk Railway, he was known from one end of the country to the other, and was welcomed heartily wherever he went. He some years ago occupied the presidential chair, and at the time of his death held the honoured position of a member of the Medical Council of Quebec. No one will be more missed from among us, and no one will be more difficult to replace than Tom Rodger.

The last member whose death I have to notice is *Robert Godfrey*, who graduated in 1844 from McGill University. Dr. Godfrey belonged to a generation earlier than that known to most of you. He was one of the most honoured general practitioners in Montreal, and his kindly sympathetic manner, shrewd worldly wisdom and great experience made him a valued friend and counsellor. Dr. Godfrey for many years was connected with the Montreal General Hospital, and had acquired a considerable reputation in plastic surgery, for which he had peculiar

aptitudes. At the time of his death he had retired from practice with a well-earned competence, having more than accomplished the allotted three-score and ten years, to which it is the fortune of so few of us to attain. Dr. Godfrey also has filled the presidential chair, and has done good work in connection with this Society. He rests from his labours.

The past year has been an eventful one also on account of the large amount of excellent work brought before us in the shape of rare and interesting cases, numerous pathological specimens, and instructive papers. One striking feature of the year was the increase in the number of the younger members who contributed to the proceedings, and this notwithstanding the fact that some of them had formed a society distinct from this, in which, I am informed, good work is being done.

Our contributions to pathology have been especially prolific and valuable. No less than twenty-two members have brought before us one or more pathological specimens. Drs. Armstrong and Johnston head the list with no less than eight contributions each; next come Drs. Alloway, James Bell and the President with six each; Dr. Laphorn Smith with five; Dr. Roddick with four, and Dr. MacDonnell with three. Specimens were also shown by Drs. James Stewart, Geo. Ross, H. D. Hamilton, Finley, Reddy, Hutchinson, McConnell, Gurd, Hingston, Reed, Springle, Molson, Wm. Gardner, and Tunstall of Kamloops, B.C. I shall not attempt to enumerate the various specimens contributed, but from the names mentioned it will be seen that they cover every department of medicine and surgery. Another feature has been the exhibition of patients the subjects of rare interesting diseases and operations. These were shown by Dr. Jas. Stewart, Dr. Molson, Dr. Jas. Bell, Dr. England, Dr. Gurd and the President. Papers and reports of cases were read by Drs. Richard MacDonnell, England, Allen, Kenneth Cameron, Jas. Bell, Springle, Johnston, Hutchinson, O'Connor, Alloway, Laphorn Smith, McKechnie, Geo. Brown, Ruttan, G. T. Ross, Wesley Mills, James Stewart, McConnell, Buller, Lockhart, Armstrong and Blackader. In fact, no less than thirty-two members of this Society have, during the past year, done some-

thing to forward its work and increase its usefulness. This certainly speaks well for the vitality of the Association. We have had many papers of more than usual interest and value ; among them I might mention Dr. Stewart's paper on *Epilepsy*, Dr. Ruttan's paper on a *New Method for Estimating Acetone in Urine*, Dr. Blackader's on *Infants Foods*, Dr. Johnston's on *Bacteriological Examination in Cases of Diphtheria*, Dr. G. T. Ross's on *The Study of Koch's Treatment of Tuberculosis in Berlin*, and other papers of interest were contributed by Drs. Armstrong, Lockhart, Buller, McConnell, Mills, Geo. Brown, James Bell, Laphorn Smith, and McKechnie.

The average attendance was large (28.2), and at some meetings over forty were present. This shows that the interest in the Society is increasing, and that the profession in general are becoming aware of the educational and other advantages derived from regular attendance at the meetings. The attendance of the younger members has of late been very large, and I hope that every year will see an increase in their numbers, and especially of those who contribute to the proceedings. All that is needed is to begin, for it is the first step that costs. Every man who sees cases and observes them must have something to tell, and he also must occasionally see some cases that puzzle him and on which more light needs to be thrown. What better method is there than bringing such before this Society, keeping in mind the old proverb that "in a multitude of counsellors there is wisdom."

The debates on papers read have often been very poor and barren, and it would be well if the Society could improve itself in this respect. If the members would read up the subject of the paper before coming to the meeting they might often get up interesting debates ; indeed many who would have much to say in private about the paper become shy and dumb in public. The only thing is to always endeavour to say something about the paper, if it is in your line of work, and say what you have to say shortly and clearly ; but you should know what you want to say before getting up, and should not improvise as you go along. You will say, however, that the object of the President's address

is not to give unasked for advice, so I shall stop before I have gone too far and proceed to discuss matters less personal.

The past year has been an eventful one to medical science in general, because it will always be associated with the name of Koch and his discovery of a remedy which he called tuberculin, and which he hoped would solve the problem of the cure of tuberculosis. The discovery of no other remedy ever raised such high hopes which were condemned to be so bitterly disappointed. The general public went mad on the subject, and they were aided by members of the profession. It is not a year since this potent remedy was made known, prematurely, it is said, and against the wish of its great discoverer. The world was soon startled with accounts of its marvellous properties, which read like a fairy tale. These accounts, however, were too good to be true. They were received with suspicion by the more cautious and thoughtful members of the profession, but the majority read and believed. Well, like other remedies, tuberculin has had its rise, decline and fall, the only difference being that it rose higher and had to fall further. The history of this remedy is familiar to you all, how the lay press was full of its marvellous performances, how those sick unto death were made well, and how it was confidently hoped that now one of the greatest scourges of the human race was laid low, that other discoveries would follow, and if perpetual youth could not be bestowed upon us, yet almost perpetual life would be our portion. The medical press, though not so extravagant in its promises, still felt the surrounding elation. The whole world became excited, and towards Berlin commenced a pilgrimage greater, perhaps, than ever took place to Mecca, and with much less satisfactory results. Many universities and societies sent ambassadors, or perhaps I should call them disciples, to learn wisdom at the feet of the great Bacteriologist. Others waited for more light; they were the wiser, for in nearly every case the pilgrimage gave no results and no good purpose was accomplished. This good city of Montreal was also stricken with the madness, though only to a slight degree, and although no members of our Society were sent as ambassadors, still two of our more enterprising confrères went out to see the

“reed shaken by the wind,” on their own responsibility. When they returned, they gave us graphic and interesting papers concerning what they had seen abroad. In the meantime some of the wonderful fluid had been procured here, and was made use of in the hospitals, but no such results as we had read of were ever seen, in fact the remedy did much more harm than good, and soon it ceased to be employed. The stage of disenchantment and even vituperation has now come, and the great name of Koch has gained no fresh laurels as yet from his discovery of tuberculin. Some of the more sanguine minds hope with Lauder Brunton that “Koch’s tuberculin may yet fulfil the hopes of its able and single-minded originator.” It is possible that, deprived of its dangerous elements, it may yet be of service in the treatment of tuberculosis. At any rate, a new line of research has been opened up, and discoveries of great importance may yet await the patient investigator of infective diseases and their germs.

Gentlemen, when I commenced this address I had no intention of saying so much, but, like all poor sermons, length is a distinguishing feature, and it is much harder to be terse than discursive. Before I close I should like to express my appreciation of the services of one to whom we are all indebted for the great success of last year’s work. I allude to our late secretary, Dr. McCarthy. Without him I should have been like a ship without a rudder. His foresight, discretion and diligence have made the position of President a comparatively easy one, and his published reports are a credit not only to himself but to the Society.

Gentlemen, again I thank you all for the kind manner you have borne with me, and I shall gladly retire into the back benches once more, from the obscurity of which, perhaps, it were wiser that I had never emerged.

SHORTENING OF THE ROUND LIGAMENTS IN RETRO-POSITION OF THE UTERUS.*

A TOTAL OF FIFTY-TWO CASES.

By T. JOHNSON-ALLOWAY, M.D.,

Instructor in Gynaecology, McGill University, Montreal.

In the July (1886) number of the MONTREAL MEDICAL JOURNAL, I reported a case of retro-position of the uterus which had resisted all other forms of treatment. The patient was found to be a confirmed invalid, unable to leave her house. The result of shortening the round ligaments in this case was good. It was the first case reported of the operation performed in this country. The patient has enjoyed excellent health ever since, now five years, and as my further experience since that operation has borne good fruit, I feel I am justified in repeating the concluding sentence of that monograph with the same convictions as I then wrote it. The words run thus:—

“I am firmly convinced that the day of treatment of retro-displacements and prolapse of the uterus with pessaries is fast drawing to an end.”

Since the publication of the paper referred to, I have, with all the care and energy I could command, pursued the line of action I had thus begun for the relief of this most distressing condition, and I can confidently assert that my expectations of success have been more than realized. They have been acknowledged by all who have been interested in this work, no matter how sceptical they were at first. The past history of my clinical work in this sphere will be expressed with extreme brevity, neither will I take into consideration other methods practised by eminent and respected surgeons for the relief of the lesion in question, because I believe them to be more difficult, dangerous and less efficient in obtaining ultimate good results. It should be a solid dictum in surgery of the present day that no man should open the peritoneal cavity to cure that which can be cured without. To be still more terse, if gentlemen who open the peritoneal cavity to suture the uterus to the anterior abdominal

* Read before the Canadian Medical Association, at Montreal, September, 1891.

wall, as a routine practice, had to decide in the case of their own wives between the intra- and the extra-peritoneal operation, I think their decision would be rapidly arrived at.

Last year I published a record of twenty cases* with results so satisfactory that I have been performing the operation up to the present time in every case of retro-position where the uterus was not firmly locked down in the pelvis by strong inflammatory adhesions, and it is a continuance of this experience which I wish to make the subject matter of this paper. Let us now consider the cases which are suitable for relief through the agency of this operation.

All cases of backward displacement of the uterus with or without descent,—in short, whenever the uterus is so placed as to receive the intra-abdominal weight upon its anterior face, the patient being in the standing or sitting posture. The strain upon the broad ligaments under these circumstances is very great and continuous, giving rise to the majority of local and reflex symptoms complained of. It will be understood when we draw the uterus strongly forward, and allow the intra-abdominal weight to fall into the posterior segment of the true pelvis, it will tend to float the uterus forwards and upwards. The posterior and lateral pouches of Douglas receiving and supporting the weight in the manner in which they were originally intended. In the normal condition, the function of the round ligaments is unquestionably to maintain the uterus and broad ligament in this state of forward inclination, thus forcing the abdominal contents to a great extent into the larger and stronger segment of the pelvis. Again, when the uterus and broad ligaments are held well forward by the round ligaments, the bladder is protected from direct intra-abdominal pressure and can rise without hindrance in the anterior segment of the pelvis during diastole. On the other hand, when this organ is dragged backwards and downwards to receive the full force of the pressure from above, we can understand the great difficulty it will have in performing its normal functions. Reasons of this nature will no doubt tend to explain to us the distressing bladder symptoms complained of by some patients afflicted with retro-position of the uterus.

* Montreal Medical Journal, April 1890.

In determining whether the uterus is fixed in the pelvis or not, we should never form an opinion unless we fail to antevert it while the patient is under an anæsthetic. We have experienced cases where it was impossible by all known methods to influence the position of the uterus without causing unwarrantable suffering, without the aid of an anæsthetic, and it is surprising how easily its position can be changed when once the patient becomes profoundly anæsthetized. But should it be found impossible to change the position of the uterus under these circumstances we must not entertain the operation of shortening the round ligaments, but advise abdominal section as the only means of affording relief in view of finding that the appendages have been primarily the seat of disease.

Dangers of the Operation.—There is but one accident which can happen after this operation peculiar to itself, this is hernia ; but from the improved methods which I will presently detail it should never occur. When we made large wounds and disturbed the external inguinal opening, in vaguely looking for something like the ligament, it was no wonder hernia followed. In the *Boston Medical and Surgical Journal*, Oct. 15th past, a case under the care of Dr. F. W. Johnson, of St. Elizabeth's Hospital, is reported, which is of considerable interest in regard to this point. In this case the canal was split up into the peritoneal cavity. This was done because the ligament on that side would not run. If there were adhesions preventing the running of the ligament they must have been within the pelvis, and the opening up of the canal could do no good. Since I have abandoned the old method of looking for the ligament *in the canal* I have never found a ligament which would not run, because I feel satisfied it is due to non-separation of its sheath and nerve. Very bad hernias must result after due time has elapsed in such cases as Dr. Johnson reports. Suppuration and sepsis may by possible accident occur in public hospital practice, but should never occur in private.

Duration of the Operation.—It should not take more than ten minutes for each side from the beginning of the excision to the closure of the wound. Lately I have accomplished the full work over each side, on an average, in about six minutes.

Method of Performing the Operation.—In regard to this question, I would say that it involves more in its individuality than any other. I have never been satisfied with methods taught by Alexander of Liverpool, Polk of New York, and others, and have held that the canal should never be opened or disturbed in searching for the ligament. When once the canal has been opened and the contents disturbed, it becomes a matter of mere accident our finding the structure sought for, and irreparable injury is done to the resisting qualities of the inguinal opening. The canal is not a hollow tube containing only the round ligament; it is a solid tube firmly packed with adipose and connective tissue, intended to fulfil a definite function, and we should not disturb its contents. These principles have guided me of late in performing the operation, and instead of opening the canal I simply make traction upon the fascia covering the external opening until I can see the ligament as it splits up to form this fascia. This method, if carefully carried out, is the most scientific, rapid in performance, and successful in results. When the fascial end of the ligament has been found very careful traction should be made upon it by means of hæmostatic forceps until it begins to show some increase in size. It now may be seized with the fingers, the nerve carefully sought for and divided. Traction should be continued as long as the ligament freely runs. The sutures should then be passed from side to side of the wound, including the pillars of the ring and half of the ligament in their bite. I use silkworm gut of salmon size, and find the needle more accurately and rapidly passed by sense of touch than by sight. Two sutures are all that should be required in each wound. A small catgut drain may be used in each wound for forty-eight hours if thought necessary. The dressings are not disturbed until a week or so after the operation, and the sutures are not removed until the third week. The patient should be cautioned against lifting or doing any work at her own home for at least three or four months after the operation. There are three important standpoints from which to regard this operation, viz. :—

1st. Does the uterus remain permanently forward?

2nd. Does the holding of the uterus and appendages forward afford relief to the series of grave symptoms complained of by the patient ?

3rd. Does the shortening of the ligaments interfere with the progress of future pregnancies, and after convalescence from these pregnancies does the uterus return to retro-position ?

1st. Yes, the uterus and appendages remain permanently forward. I have had two cases where the uterus became again retroverted some months after the patients returned to their homes. In both of these cases only one ligament was shortened. In one case I had opened the canal, but failed to find the right ligament. When the patient left the hospital the uterus was well forwards, but it afterwards swung round to the shortened side and dropped backward into the pelvis. In the other case, the patient took ether very badly and my anæsthetizer warned me not to proceed. This uterus also dropped somewhat backward, but not so far as it originally was ; the patient, however, became much improved in health. Since this experience I have always insisted upon operating upon both sides before the patient returned to her home.

2nd. In regard to the second proposition—the relief of symptoms through the agency of the operation—I can only say that no procedure has given me more satisfactory results, and it has been especially so in regard to the relief of distressing reflected nerve symptoms, induced by long-continued chronic invalidism. I do not know, however, that such good results were attained in every case through the agency of this operation alone, as I had in a large majority of cases performed excisions of the cervix and colporrhaphy at the same sitting, which should always be done in suitable cases, but I have had no failure to relieve symptoms in cases of unmarried young women with retro-displacement. In passing, I may here state that this form of displacement is much more common than is generally suspected, in young delicate girls who are engaged in the performance of men's work to obtain a living.

3rd. In regard to the last proposition—the influence of the operation upon future pregnancies—I can confidently say that

it has none but the most happy. I have confined personally a few cases upon whom I had previously operated, and in every case pregnancy in its entire course was a happy one, and in no case did the uterus drop backward after convalescence had been passed through,—it remained anteverted.

A FEW NOTES ON THE THERAPEUTICS OF COD-LIVER OIL.

By T. SIMPSON, M.D.,

Consulting Physician to the Montreal General Hospital, &c.

Perhaps there is no remedy of its class which has been so universally prescribed and used as cod-liver oil. It has been recommended in almost every disease to which flesh is heir, both as an external application and as an internal remedy. And this has been going on from time immemorial. The fat of fishes was used as a remedy in the days of Pliny, and for over a hundred years just past, its steady employment, with scarcely a break, in rheumatism and in disorders having an origin in struma has obtained.

As an evidence of its extended use, I may mention that a middle-aged man whom I met on the north shore of Lake Superior thirty-five years ago, informed me that as far back as his memory carried him the fat of certain fishes caught on that coast, and especially the livers, were fed to the emaciated and those suffering from diseases of the chest, accompanied by cough, by the fishermen, who at that time were nearly all natives or "half-breeds." I could not discover how far back this plan of treatment extended, or whether or not it had been introduced by the whites. It must, however, be admitted that a knowledge of, and faith in, the virtues of cod-liver oil as a remedy extended far and wide, and have existed for ages. It follows also that there must be a solid basis for such opinions.

I have just said that it has been used, at one time or another, in almost all diseases; and whilst on the one hand its more than common use is a direct compliment to its efficacy, on the other hand an injudicious and indiscriminate administration has frequently brought it into undeserved disrepute.

Broadly, it may be said that cod-liver oil is indicated in a very large class of subacute and chronic disease in which emaciation and debility are prominent, accompanied by, or resulting from, malassimilation of food, or perverted nutrition.

In various forms of tuberculosis, including those of the skin, and notably lupus, in rachitis, in tardy ossification of the bones and growth of the teeth in children, often accompanied by tumid liver and abdomen, in softening of the bones in adults, in a variety of skin diseases, notably psoriasis, occurring in children and young women ill-nourished or emaciated, or tainted by scrofula or syphilis, it is indicated. I have known it, when judiciously administered, remove most extensive psoriasis, after the failure of the usual remedies, including arsenic and chrysophanic acid.

As a purely local application, I am satisfied that it does not possess any property which would compensate for the uncleanly and malodorous practice; nevertheless cases occasionally, though rarely, occur, in which it is advisable, failing other means, to attempt its introduction into the system by inunction. It is, however, a most unsatisfactory method.

In chronic arthritis, and in the chronic and scarcely inflammatory musculo-fibrous rheumatism of the aged and debilitated, accompanied by rigidity of the muscles and stiffness of the joints, the medicine is indicated, and will often procure decided relief of pain and more or less relaxation of the muscles and joints.

But it is as a remedial agent in the treatment of pulmonary consumption and certain chronic bronchial ailments—especially such as are attended by copious muco-purulent expectoration—that cod-liver oil has acquired its reputation, and although its beneficial action is doubtless owing chiefly to its nutrient qualities, still it possesses others in addition. It has been found that bland and wholesome oils—olive and others—admirably adapted for fat foods, when readily assimilated, increase the weight and strength of the patient. But cod-liver oil does this and more; it promotes assimilation, lessens waste of tissues, often restores appetite, and diminishes cough and expectoration. It favours

the expulsion of tuberculous matter, as well as lessens the tendency to its formation. In short, in favorable cases, when the stomach is in fair working condition, it ameliorates all the symptoms and in some cases restores health. Unfortunately these latter are decidedly few in number, especially among persons inheriting the tuberculous diathesis; nevertheless many persons live for years in comparative comfort, owing chiefly to the persistent and judicious use of the oil. The disease is not cured, but held in check.

It has been charged with the production of hæmoptysis by enriching the blood and increasing the number of red corpuscles, in this way inducing local hyperæmia in parts adjacent to tuberculous deposit, but as hæmoptysis frequently occurs in phthisis where no medication has been used—is often the first symptom of its presence—I am not disposed to attach much importance to the charge. Its use, however, should be suspended during hæmoptysis or the supervention of any acute intrathoracic inflammation. Its whole action on the economy is what may be called altero-nutritive, and whilst it cannot be pretended that it has any direct and local effect on the bacilli of tubercle, it may under favourable circumstances render their breeding and feeding ground untenable.

Its marked alterative action and influence on digestion over other fats is accounted for by the presence of bile constituents and other substances, chiefly bromine, iodine, iron and phosphorus in a certain combination. There are said to be also one or two “peculiar principles.” Doubtless the oil often suffers from over “purification,” some of its important constituents being eliminated during the process.

Unfortunately the taste and odour of cod-liver oil are most unpleasant, even to the exciting of nausea in many persons. In others unaffected in this way, the stomach rebels, consequently various plans have been devised to conceal these objectionable qualities, and without altering the chemical constitution, to present the oil in a more acceptable form. With this end in view, numberless mixtures, emulsions and extracts of various flavours, strengths and compositions have been offered to the public.

Reviews and Notices of Books.

Handbook of Diseases of the Ear. For the use of Students and Practitioners. By URBAN PRITCHARD, M.D. (Edin.), F.R.C.S. (Eng.) Second edition, with illustrations. London: H. K. Lewis, 136 Gower St., W.C. 1891.

The need of a thoroughly reliable handbook on diseases of the ear for the use of the student and busy practitioner is greatly felt, and the second edition of so valuable a book as the present one is warmly welcomed. This edition is thoroughly practical, entering into no detail which the student should not be familiar with, and the views expressed are those which are recognized and accepted at the present day. The print is of good type and the illustrations well executed. We most heartily recommend this book to all students and practitioners as being, without exception, the book best suited to their wants.

Minor Surgery and Bandaging. By HY. R. WHARTON, M.D. Philadelphia: Lea Brothers & Co. 1891.

This little work is in every way an excellent one, and up to date. The part on bandaging is very complete, and illustrated by a number of remarkably clear photographs. Besides minor surgery and bandaging, fractures, dislocations, ligation of arteries and amputations are shortly treated of in well written articles, profusely illustrated. We can honestly recommend this book to students and practitioners. The hospital student and dresser will find it invaluable.

Stories of a Country Doctor. By WILLIS P. KING, M.D., First Vice-President of American Medical Association. With illustrations. Philadelphia: Hummel & Parmele. '91.

Dr. King dedicates his collection of stories to the progressive, good, conscientious and true men of the medical profession of the United States. The stories are amusing, for the Doctor in this case gained his experience of human nature in its crude forms while practising his profession in the far West, upon the outskirts of civilization, right after the civil war. It would have

been better had the publishers seen fit to omit the numerous advertisements of patent medicines, for they do not ornament even a book of this description.

Society Proceedings.

AMERICAN ORTHOPÆDIC ASSOCIATION.

FIFTH ANNUAL SESSION,

Held at Washington, D.C.. Sept. 22, 23, 24 and 25, 1891.

ORTHOPÆDIC SURGERY AS A SPECIALTY.

Dr. A. B. Judson of New York, in the President's address, said that orthopædic surgery is specially the domain of physical demonstration, where subjective symptoms give place to objective signs, where treatment is chiefly mechanical, and where results are recorded in degrees of a circle and fractions of an inch. It exists and thrives as a specialty, because the general practitioner concurs with the public in committing patients who, from the nature of the case, generally recover with some deformity and disability to the care of experts.

Dr. N. M. Shaffer of New York defined orthopædic surgery as that department of surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities, for the proper treatment of which special forms of apparatus or special mechanical dressings are necessary.

Dr. V. P. Gibney of New York proposed a definition as follows: That department of general surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities.

ORTHOPÆDIC NOSOLOGY.

Dr. W. R. Townsend of New York advised the construction of a uniform nomenclature for orthopædic affections, to facilitate the taking of histories and to increase the value of reported cases. A committee was appointed for this purpose.

THE LATE MR. THOMAS.

Dr. A. J. Steele of St. Louis paid a friendly tribute to the late Mr. Thomas of Liverpool, a corresponding member of the Association, whose methods have been so widely discussed, and whose influence is felt in many branches of orthopædic practice.

CRURAL ASYMMETRY AND LATERAL CURVATURE.

Dr. H. L. Taylor of New York described two instances in

which the leg was 2 inches and $1\frac{1}{2}$ inches short respectively. Both cases were in young women. The short limb was larger and stronger; the shortening was chiefly below the knee, and there was no lateral curvature.

Dr. A. Hoffa of Wurzburg, Germany, described a specimen which proved that in one instance the shortness was due to union of the neck and shaft of the femur at an acute instead of an oblique angle.

Dr. F. Beely of Berlin illustrated with specimens of lateral curvature and ingenious models the changes which occur in the bodies of the vertebræ preceding rotation, explaining how the paraspinous sulcus is shallow and broad on the concave, and deep and narrow on the convex sides, a condition which is reversed in the lumbar region by the absence of ribs.

SPINA BIFIDA AND CLUB-FEET.

Dr. H. A. Wilson of Philadelphia related the case of a child of four years. The ordinary methods of reducing the deformity of the feet excited suppuration, which resisted treatment for six months, as long as the patient remained under observation. There were sensory paralysis and deficient circulation in the lower extremities. The same intolerance of surgical treatment thwarted all attempts to treat the spinal tumour.

Dr. L. A. Weigel of Rochester had had similar trouble with a similar case, but found that when the child was older it was possible to treat the deformity of the feet with success.

Dr. A. E. Hoadley of Chicago related a case of spina bifida, in which good result had followed an operation in which he did not attempt to repair the vertebral deficiency, but had simply turned up large flaps, and united them by silk sutures.

Dr. T. M. L. Chrystie of New York reported a case of congenital equino-varus, with absence of great toe and contiguous bones of the instep. Mechanical treatment speedily reduced the deformity, with a gain of symmetrical gait.

Dr. W. E. Wirt of Cleveland related an interesting and unusual case of club-hand and club-foot, with other congenital malformations.

Dr. Hoffa said it was evident that all cases of club-foot do not have the same causation. The cases reported were due to some fault in the earliest stages of development.

SPASTIC PARALYSIS AND SPINA BIFIDA.

Dr. W. N. Bullard of Boston reported a successful operation by Dr. C. L. Scudder of Boston for the relief of spastic paraplegia in a child with spina bifida. He thought the paraplegia

was not due directly to the spina bifida, but to the accompanying hydrocephalus. He advocated electrical treatment, and faradization, rather than galvanism.

Dr. Weigel reported a case in which division of all shortened tissues and the use of a brace had secured a favourable result.

DEFORMITY AFTER KNEE-JOINT EXCISION.

Dr. J. C. Schapps of Brooklyn said that after excision the two united epiphyses make a mass of soft bone, in each end of which is inserted a long lever. With this leverage it is possible to restore and maintain a straight limb by simple mechanical treatment.

Dr. A. M. Phelps of New York thought that recurrence of deformity can be prevented by liberal resection of the hamstrings.

Dr. Hoffa said that relapse often occurs from incomplete removal of diseased tissue, and that when excision is done in early life, and all disease removed, marked shortening will not occur.

Dr. Beely said that flexion could be prevented by over-correction, but at the risk of further over-correction as the result of locomotion. Apparatus designed to prevent recurrence of deformity should relieve the limb from the weight of the body.

Dr. Taylor objected to free division of the hamstrings, as these muscles are useful in balancing the pelvis on the femur, even after motion at the knee is abolished.

Dr. J. D. Griffith of Kansas City had prevented flexion by removing all the disease and without dividing the hamstrings.

Dr. Schapps said that in many patients under ten years, excision was to be preferred to mechanical treatment.

KNEE TROUBLES IN LOCOMOTION.

Dr. Shaffer related a number of cases in which an elongated patellar ligament had caused pain and difficulty in locomotion.

Dr. A. M. Vance of Louisville thought that the ligament might become shorter if not constantly stretched by use. Rest was indicated.

Dr. Gibney cited a case in which rest for one and a half years had not caused shortening.

Dr. Shaffer said his patients had been benefited by giving lateral support, thus converting the joint into a true hinge.

ATROPHY IN JOINT DISEASE.

Dr. E. G. Brackett of Boston argued that atrophy is due to disease and not entirely to reflex irritation.

Dr. A. G. Cook of Hartford said that atrophy of the foot, often very marked, can be only the atrophy of disease.

Dr. J. K. Young of Philadelphia believed that the atrophy in question is the result of reflex interference with nutrition. In hip disease, it appears first in the thigh muscles, especially the adductors.

ATROPHIC ELONGATION.

Dr. Roswell Park of Buffalo described the atrophic elongation conspicuous in the lower extremity. As the result of disuse from disease, with avoidance of pressure on the bone ends, the bone lengthens more rapidly than its fellow. This is illustrated in growing children with disease of the tibia or femur, and is noticeable in some cases of hip disease.

TREATMENT OF HIP DISEASE.

Dr. Phelps said that traction and fixation should be enforced to prevent destruction by intra-articular pressure. Ankylosis is the result, not of fixation, but of disease. The patient should be put to bed from three weeks to four months, and should then wear the lateral traction fixation splint, which was exhibited. Children under three years are placed in the plaster-of-Paris portable bed, which was also shown.

Dr. Wirt exhibited a new device for traction, in which the force of the lever is changed into rectilinear instead of circular motion, without key, screw-driver, wrench, buckle or strap.

Dr. R. H. Sayre of New York said the invention gave accurate and easy adjustment in the direction of traction, but in the direction of relaxation the control was defective.

Dr. A. J. Gillette of St. Paul was satisfied with the results obtained by the use of Thomas' splint.

Dr. Vance said he practiced fixation at the hip, but believed much depended on the surroundings of the patient.

Dr. Shaffer believed the best results can be obtained by the use of the long Taylor traction splint. He thought results should not be reported till six years had passed, as relapses were not uncommon.

Dr. Ridlon of New York said a splint should secure immobilization by antero-posterior leverage, as in Thomas' splint, by an action identical with that of the Taylor spinal brace.

Dr. Steele approved of the combination of the English method of rest with the American plan of traction.

Dr. Taylor practiced rest in bed with traction in the acute stage, to be followed by a splint which allows locomotion.

Dr. Sayre thought but few cases required lateral traction. When the inflammation had ceased he applied passive motion. If the pain and tenderness following last more than twenty-four hours, the passive motion had not been rightly used.

Dr. E. M. Moore of Rochester believed that a joint only moderately inflamed demands motion. He employed traction with a certain amount of motion.

CONGENITAL DISLOCATION OF THE HIP.

Dr. Phelps exhibited apparatus for the treatment of this affection, and described his method and its results.

Dr. E. H. Bradford of Boston had modified the apparatus in previous use by adding an appliance with which the patient is allowed to walk about. The joint is thus protected, as in convalescence, from hip disease. Those appliances he had made of aluminum for the sake of lightness.

Dr. C. C. Foster of Cambridge said the best recorded result had been obtained by Dr. Buckminster Brown, whose patient was treated by mechanical means in bed.

Dr. A. Hoffa had operated by deepening the acetabulum, which is practicable from the thickness of the pelvis at this point. At first he sowed a periosteal flap over the trochanter, but this is unnecessary. Two month ago he examined his first case, two years after the operation, and found a movable joint, freedom from the characteristic gait, and absence of lordosis.

Mr. Howard Marsh of London divided these cases into (1) those in which the bone slips about on the wall of the pelvis, and (2) those in which it is fixed. The majority belong to the second class, and in these, operation is useless, but is more properly applicable to those cases of the first class in which the head is high up and movable. The anterior position is the most favourable, because lordosis, which depends on the backward displacement of the head of the femur, is absent.

Dr. Ridlon said that, as subjects for treatment, anterior dislocations are more hopeless than posterior ones,

Dr. De F. Willard of Philadelphia said treatment should be by forcible attempts at reduction to excite inflammation, followed by traction and systematic exercise.

MALIGNANT DISEASE AND POTTS' DISEASE.

Dr. Judson reported three cases in which Potts' disease and malignant disease of the vertebræ had been confounded by himself and other observers. In one, the diagnosis was made ante-mortem. The patients were 4½, 35, and 42 years respectively. The chief diagnostic points are—(1) Deformity present in Potts'

disease, absent in malignant disease ; (2) local disability ; and (3) local pain, both absent in Potts', and present in malignant disease.

Dr. Willard had seen two cases in which his diagnosis was confirmed post-mortem.

Dr. Gibney reported a case in a man of 40 years, in which he and others had been baffled in diagnosis. There was sarcoma of the fifth and sixth cervical vertebræ.

Mr. Marsh related the case of a child which was extremely difficult to diagnosticate, and which proved to be malignant in character.

SYPHILITIC POTTS' DISEASE.

Dr. Ridlon said that in this form the onset is more rapid, the pain and disability greater, the kyphosis sharper in outline, and abscesses often appear before deformity. If recognized lesions of hereditary or tertiary taint are present, treatment should be by large doses of mercury and iodide of potassium.

Dr. B. Lee of Philadelphia referred to cases of this origin which had come under his observation.

POTTS' DISEASE IN THE OLD.

Mr. Marsh had observed instances of suppurative tuberculosis in the metacarpus, tarsus, testis, cervical glands, knee and hip in eight patients between 63 and seventy-three years. But senile tuberculosis of the spine is most rare. He had seen two cases. The patients were 64 and 65 years respectively. The College of Surgeons of London possessed an osseous specimen of the action of senile tuberculosis of the upper cervical vertebræ. In his "Studies of Old Case-Books," Sir James Paget had recorded a case of Potts' disease in a gentleman of 55, attended with angular curvature.

Dr. Sayre recalled the case of a patient, aged 55, who recovered from Potts' disease with paraplegia and abscesses.

POTTS' DISEASE WITH PREGNANCY.

Dr. T. H. Myers of New York had collected twenty-five cases of labour in fifteen patients recovered from Potts' disease. In no instance did series recur. But of seven cases in which the disease developed during pregnancy, three died and three were left paraplegic. Normal parturition often follows in cases of deformed pelvis whose measurement would indicate that it was impossible. These patients should be examined by the obstetrician early in gestation.

Dr. Taylor knew of many cured patients whose marriage had been followed by the birth of healthy children.

Dr. G. W. Ryan of Cincinnati thought it was a question of allowing the tuberculous to marry. He knew of married women, deformed by Potts' disease, who had borne and raised healthy children.

Dr. Steele said one of his patients recovered from Potts' disease had borne six healthy children.

Dr. Lee said that one of his patients, with a large lumbar kyphosis, had borne twelve children, who, with the mother, are all in good health. He thought Potts' disease, even in the lumbar region, rarely produced narrowing of the pelvis.

Dr. Vance had seen a number of cases in which this deformity had not made labor of more than average difficulty.

PARAPLEGIA IN POTTS' DISEASE.

Dr. Brackett said that relief from paraplegia may be confidently expected from continuous extension and fixation, even in cases of eighteen months standing. This should be continued for some time after recovery.

Dr. Young reported two cases of complete recovery in which there had been absence of sensation, a feature always of grave import.

Dr. Shaffer referred to a case in which the autopsy showed that a portion of the eighth dorsal vertebra had nearly cut through the cord, leaving but a slender thread.

Dr. Hoffa said that in these cases the spine should be put absolutely at rest. He had collected thirteen operations within the vertebral canal. Two died at once, two recovered, and would perhaps have done so any way. In the others there were immediate good results, but relapses soon occurred. The operation has no great future before it, and should be limited to these cases in which the processes alone are affected.

Dr. S. Ketch of New York had now under treatment a patient who had been paraplegic for five years, but he still maintained a hope of effecting a recovery.

Dr. Hoffa suggested that an abscess may be exerting pressure on the cord.

Mr. Marsh said paralysis rarely depends on the pressure of an abscess; but (1) on softening of the cord, (2) pressure of a displaced sequestrum, and (3) most common, on pressure from exudation. He would only operate after thorough trial of rest.

Dr. Willard said we could not absolutely diagnosticate the cause. When there are extensive inflammatory deposits about the arches, laminectomy may relieve the posterior pressure and allow expansion of the cord.

Dr. Lee said that in all cases of this form of paraplegia suspension would materially hasten recovery.

ABSCESSSES IN POTTS' DISEASE.

Dr. Townsend thought that, as a rule, these abscesses should not be opened. In some cases aspiration should be done, and in others the cavity should be opened and drained to prevent sepsis and danger to life. His views were based on the history of 880 patients, 75 of whom had abscesses.

Dr. Young suggested the division of lumbar abscesses into external and internal, according to their relation to the psoas fascia.

Dr. Vance advocated aspiration, repeated as often as fluid is detected. In this way he cures three out of five cases. The depot is thus kept small, and the extent of subsequent operations, if necessary, is limited.

Mr. Marsh had rarely obtained a good result by the use of the aspirator. In his observation it is best to open freely, evacuate thoroughly, and then apply pressure to assist in closing the cavity.

Dr. Ryan said he had found aspiration to be a poor dependence. When interference becomes necessary, he believed incision to be the most conservative and effective procedure.

Dr. B. E. Hadra of Galveston said that on general surgical principles, such abscesses should be evacuated.

Dr. Willard would let dormant and caseating foci alone; liquefying collections he would aspirate and inject with iodoform emulsion, and if true pus were present, he would incise, wash out with sublimate solution, and avoid undue manipulation which might cause fissures which would let the tuberculous poison into the system. He would then suture the incision and inject iodoform and kieloid olive oil.

Dr. Readford said that while he did not think the danger from opening large abscesses was so great as had been thought by some, he was aware that absorption of some abscesses is not at all uncommon.

Dr. J. R. Moore of Minneapolis said the evacuation of a spinal abscess is a matter of great surgical responsibility, as it is an operative thing, which is proved true by the fact that after operation.

Dr. Hadra would open only those abscesses which cause severe pain or are likely to give rise to septicæmia.

Dr. Lee would reserve open as abscesses of the kind which cannot be treated by the method now mentioned by the last speaker.

Dr. Hadra said that while he thought that in our anxiety to treat a paraplegic patient we forget the danger of the disease itself.

Dr. Shaffer would not say that incision was never advisable, but generally it is wrong to open one of these abscesses. A very large abscess cannot be washed out, and its disappearance may be confidently expected, especially if efficient mechanical treatment is practicable.

Dr. Myers said it was proven (1) that it is impossible to completely remove bacilli from the abscess cavity, and (2) that bacilli-infected wounds at times heals primarily. Infection is more imminent after incision, because the wound lays open channels of absorption.

WIRING THE VERTEBRAL PROCESSES.

Dr. Hadra suggested that the spinous processes at the seat of the disease be exposed and then firmly wired together to secure rest and prevent deformity. The operation, as he had performed it for fracture of the cervical spine, was extremely simple and effective.

Dr. Sayre thought the wires would not bear enough force to remove the weight from the vertebral bodies, and that outside protection would be necessary to prevent lateral and rotatory disturbance.

Dr. Judson thought it was a question whether wiring was applicable through the long periods in which consolidation is delayed. Intolerance of the skin always prevents such pressure as we would like to make on the kyphosis. The method proposed circumvents this difficulty.

Dr. R. Whitman of New York said that due consideration should be given to the difference in development between the growing and adult spine.

Dr. Ketch did not see how the proposed operation could take the place of apparatus.

Dr. Moore said it was a most simple and harmless procedure, and, notwithstanding the theoretical objections, he would accept the first favourable occasion to try it.

PROGNOSIS AND TREATMENT OF POTTS' DISEASE.

Dr. Ketch had learned from 75 cured cases that in length of treatment and degree of deformity the upper region of the spine is most favourable, and the middle least of all, that paraplegia more frequently accompanies disease in the upper than in the lower regions, and that cases of traumatic origin recover sooner than those of tubercular origin. Sudden deaths sometimes occur in cervical caries from interference with respiration.

Dr. B. Bartow of Buffalo said that the earliest important sign in the dorsal and lumbar regions is lateral curvature, dependent

on nervous tenderness. Apparatus should be constructed to oppose the rotation accompanying the lateral curvature, as well as the antero-posterior deformity. He used the plaster-of-Paris jacket applied to effect the above objects.

Dr. Foster said that extension in bed is the best method in the acute stage. Extension should be made by light weights, the cords leading over the head and foot of the bed and attached to waist-belts, chest-belts, and head-straps.

Dr. Weigel reported a case of cervical Potts' disease, with abscess and paraplegia, successfully treated by extension in bed.

Dr. Ridlon had kept patients in bed from three to four years, and had never seen a case which was not benefited generally and locally.

Dr. Ryan said recumbency was the ideal treatment, but it is in many cases impracticable. He had found split plaster jackets efficient after the acute stage.

Dr. Lee said that many years ago, when the plan had fallen into entire disuse, he was the first to adopt suspension from the practice of Dr. J. K. Mitchell. The apparatus was Le Vacher's head support and jury-mast, attached to a chair or go-cart, or to a door-way swing.

Dr. Sayre said that in the cervical and upper dorsal region, a metal posterior splint supported on the pelvis should be used with a jury-mast, and in the lower dorsal and lumbar regions a plaster-of-Paris jacket with a jury-mast. Recumbency should be practiced in the acute stage; children should be placed in the wire cuirass.

Dr. Ketch had been disappointed with the plaster-of-Paris and jury-mast in the cervical and upper dorsal region. He commended the Taylor apparatus and chin-piece. In the lumbar region almost any supporting apparatus will secure a good result.

Dr. Taylor said that the antero-posterior lever secures rest and protection and combats deformity. Old and neglected cases are especially amenable to treatment, as ankylosis is later and rarer than is generally supposed. Abscesses and paraplegia do not forbid a favourable prognosis.

Dr. Bradford said that the plaster-of-Paris jacket was the readiest method, but had its disadvantages; that a steel brace gave better support, but demanded more skill and care; and that recumbency was the surest way to prevent deformity, but, as a rule, was impracticable for the long periods covered by the disease.

TYPHOID SPINE.

Dr. Gibney reported an additional case of typhoid spine in a



man of 45 years, in which, different from the cases previously reported, there was marked deformity in the cervical region, dating back to typhoid fever at the age of 22. Two years of pain and disability had immediately succeeded the typhoid attack. Usually the symptoms had not appeared till one or two months after the fever.

Dr. Hadra recalled an epidemic of typhoid with so much tenderness on pressure of the vertebræ that the affection was at first thought to be meningitis.

RHEUMATIC SPONDYLITIS.

Dr. Ryan said that this rare affection should not be confounded with rheumatoid arthritis of the spine. It is usually accompanied by rheumatic manifestations elsewhere. In the early stage, the symptoms resemble those of tubercular spondylitis. Later, the deformity is not angular, but resembles that of senile kyphosis. Treatment should be directed to the relief of pain by support, cauterization, and medication. In the chronic form, when pain has lessened, mobility should be encouraged by passive motion.

Dr. Hoadley deplored the confusion which is found in the nomenclature of these conditions which produce such a variety of results. He thought both rheumatism and osteo-arthritis were microbic diseases. If ligamentous structures interfere with motion, passive motion was proper.

Dr. Lee was reminded of a case which was at first thought to be spinal myalgia, but which proved to be gouty disease of the cartilages, an infrequent affection. Apparatus afforded relief, but, of course, not a cure.

Dr. Ryan said that gouty spondylitis is generally attended by manifestations in other parts of the body. He had failed to state that his patient had limited respiratory movements.

Dr. Vance related a case in which there was, in addition to the spinal affection, complete immobilization of the thorax with chiefly diaphragmatic respiration.

Dr. Bartow had seen a case in which relief was afforded by the spinal jacket.

Dr. Gillette reported a case which, at the first glance, resembled the deformity of Potts' disease, but which proved to be rachitic in its etiology. Improvement followed a few days after suspension was begun.

TORTICOLLIS.

Dr. Whitman inferred from the study of 264 cases that torticollis was more frequent in females than in males, and that the two sides of the neck were equally liable. Acquired torticollis, being often the result of suppurating cervical glands, should be

treated at first by mechanical support to secure rest and prevent deformity. Later, division of contracted parts, with careful after-treatment, should be practiced.

Dr. Hoffa said that cases of foetal origin have, immediately after birth, an atrophy of the face and head.

Dr. Whitman thought that the asymmetry of the face and head was a late feature of torticollis due to muscular action on the growing bones.

SACRO-ILIAC DISEASE.

Dr. Lee said the sequence of events is as follows: (1) injury of the synchondrosis, (2) subacute inflammation, (3) irritation of the nerves of the joint transmitted to the nearest plexus, and (4) resulting pain in the sciatic. The sciatica should be considered the result, not the cause, of all the troubles. In nine cases out of ten neuralgia is the effect and not the cause of any trouble. As stooping in sacro-iliac disease is injurious, he had devised a handy instrument with which the patient can pick up an object from the floor while remaining erect.

Dr. Benjamin Lee of Philadelphia was elected President, and Dr. John Ridlon of New York Secretary, for the ensuing year.

CANADIAN MEDICAL ASSOCIATION.

Twenty-fourth Annual Meeting, held in Montreal, Sept. 16, 17 & 18.

(Continued from page 308.)

FRIDAY AFTERNOON (18TH).

The President took the chair at 2.45 P.M.

Minutes of the morning session were read and confirmed.

Continuation of Dr. Alloway's paper.

Dr. Wm. Gardner has often performed the operation, but prefers the older operation of Emmet's when it can be done, although the operations are not interchangeable. When the cervix has undergone extensive cystic degeneration he would remove the diseased portion by a wedge-shaped incision, having the diseased surface correspond to the base of the wedge and then bring the edges together.

Dr. Laphorn Smith thinks there are advantages to be claimed for the newer operation, namely, that the elongated portion of the cervix that tended to press injuriously against the posterior vaginal wall was removed, and that tension was more effectually relieved.

Dr. Alloway replied. He also exhibited wax models illustrating the uterus before and after the operation, and also the different steps of the operation.

Dr. Small (Ottawa) read the report of a case of "Malignant Disease of the Uterus discovered at the Seventh Month of Pregnancy."

Dr. Laphorn Smith thought that the step between proliferating endometritis and cancer was a very short one, and the sooner an operation was performed the better. The delay which generally occurs was the great factor in the unfavourable results of operation. He believed that laceration of the cervix was one of the principal causes of epithelioma of the uterus. Many cases had come under his care of very severe laceration of the cervix which had been treated for a long time for ulceration; and the delicate mucous membrane of the cervical canal had been so irritated by caustics until it had become converted into cicatricial tissue of low vitality which readily underwent cancerous degeneration. He could not too strongly urge repair of a laceration as soon as discovered either by Emmet's operation or, when much cystic disease was present, by Schröder's.

Dr. Wm. Gardner has had no experience of cancer occurring with pregnancy. He thinks there are very few cases in which the malignant disease is likely to be recognized in the early months of pregnancy.

Dr. Alloway said that to his mind the important point to be considered by the physician was whether to interfere at any time during the pregnancy or do all in his power to bring the patient to her full time. He thought that the great danger to be apprehended by interference was hemorrhage, and that the duty of the practitioner was to bring the patient to full term if possible. The life of the mother was already doomed. All of our endeavours should be directed to the interest of the child.

Dr. Powell said that in Dr. Alloway's remarks he saw the position in which the practitioner stood, and felt that he would take the advice favoured by him, namely, to avoid interference as long as possible, and do all in his power to carry the patient to full term.

Dr. Jas. Ross said it was a difficult matter to decide whether to interfere or to let pregnancy go on to full term, but he would rather incline to let it go on to full term, for then he thought there would be less liability to hemorrhage.

Dr. Small, in reply, said that Hermann recommended induction of labour as soon as possible.

Dr. Wyatt Johnston showed a simple apparatus for collecting samples of water for bacteriological examination at any desired depth below the surface. The apparatus consisted of a brass frame in which small glass-stoppered bottles could be held and the stopper lifted at the required depth and closed again by means of a spring. The apparatus was a modification

of a similar one devised by Dr. Ellis of Toronto, by which the construction was simplified and adapted to taking the samples more rapidly.

Dr. Wilkins read a paper on "Cold Baths in the Treatment of High Temperature in Typhoid Fever."

Dr. A. Ruttan (Napanee) said that for the last fifteen years he had been in the habit of using cold baths in all cases of typhoid fever when the temperature was high. He had been first led to begin the treatment by observing the unexpectedly favourable turn of a very severe case with high temperature and delirium, after the patient, a young girl, had escaped from the house in her night-dress and remained out during a cold night, having fallen asleep on the grass. When found she was shivering with cold, but her general condition was greatly improved, and no ill effects whatever followed the exposure. He had seen the most beneficial results from the treatment. When it was impossible to overcome the objections of the patients or their friends to the bath he would fill a napkin with pounded ice and apply it to the spine, rubbing it up and down the back till the temperature was lowered. He thought that this modification embodied the essential feature of the cold bath treatment, as a cooling of the central nervous system was, after all, the main object.

Dr. Powell (Ottawa) had had no experience with this form of treatment. The great objection was the difficulty of carrying it out in private practice. And also that it would be dangerous to allow the patient to stand up and walk to the bath when the heart was weakened by the fever.

Dr. Jas. Ross also objected to any exertion in typhoid fever, but if the treatment could be carried out otherwise there could be no objection.

Dr. Sloan asked for Dr. Stewart's opinion.

Dr. James Stewart said he had given close observation to the method of treatment by cold baths, and was convinced of its great value in typhoid fever. The great advantage was the shortening of the period of convalescence. He thought that it acted through the central nervous system, and that it was a purely scientific method of treatment. He complimented Dr. Ruttan on his success and perseverance.

Dr. Wilkins, in reply, advised reading a paper by Dr. Hare in the March number of the *Practitioner*, in which he reports 1700 cases treated at the Brisbane Hospital. He was delighted to hear of Dr. Ruttan's success. A skeleton bath could be obtained for \$6 or \$7 from any plumber. He did not allow patients to stand up except in the early stage of typhoid fever or in the case of robust patients. Sponging was very valuable in cases where the cold bath was unsuitable. The temperature of the cold bath was between 68° and 70° F.

Dr. Wyatt Johnston gave a short account of some examinations which he and Dr. H. D. Hamilton had made of the sputum of cases of heart disease. The sputum was frequently found to contain large epithelioid cells filled with brown pigment masses—the so-called “heart-failure cells” of E. Wagner. He considered that the diagnostic significance of these structures had been overlooked. They were uniformly present in cases where compensation was failing, and would probably afford a valuable prognostic indication in cases where applications for life insurance were entertained in spite of the existence of a heart murmur. They were not found in the conditions where traces of blood occurred in the sputum, except where hemorrhagic infarction was present—a condition most commonly met with, however, in heart disease. In a great many cases it was difficult to obtain any sputum, but this could be overcome with an intelligent patient by examining a little mucus hawked up from the back of the throat in the morning. If this was impossible a mild expectorant might be given.

Dr. Elder gave a brief summary of his paper on “Traumatic Separation of the Lower Epiphysis of the Femur.”

Dr. Shepherd thought the condition was very often confounded with dislocation.

Dr. McConnell read a paper on “A Case of Impacted Gallstones followed by Abscess of the Liver.”

The Rev. Dean Carmichael entered during the reading of the paper and was invited to take a seat on the platform.

Dr. Geo. Ross saw the case reported by Dr. McConnell, and was satisfied there was no malignant disease at the time when he recommended an operation, which was refused.

Dr. A. Laphorn Smith read a paper on “A Further Plea for the A.C.E. Mixture.”

Dr. Stirling consented to consider his paper as read—“Cerebral Abscess following Mastoiditis. Operation. Recovery.”

Dr. Proudfoot gave a brief summary of his paper on “Occlusion of Auditory Meatus by Hyperostosis.”

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

At the annual meeting of this Society, held on October 9th, the following gentlemen were elected office-bearers for the ensuing year:—President, Dr. L. C. Prevost; 1st Vice-President, Dr. W. C. Cousens; 2nd Vice-President, Dr. A. A. Henderson; Treasurer, Dr. R. W. Powell; Secretary, Dr. C. J. H. Chipman; Curator, Dr. J. A. Grant; Librarian, Dr. H. B. Small; Council, Drs. McDougall, Hurdman, Robillard, Dewar, Wright and Horsey.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Annual Meeting, Oct. 9th, 1891.

F. J. SHEPHERD, M.D., PRESIDENT, IN THE CHAIR.

The annual meeting for the year 1891-92 was held at the Society's rooms, 14 Phillips Square, on the above date. There were present: Drs. F. W. Campbell, Proudfoot, Perrigo, Laphorn Smith, Stirling, Jack, Springle, Kenneth Cameron, Wm. Gardner, Duquet, Guerin, J. H. Bell, Gurd, J. J. Gardner, A. D. Gardner, Muirhead, O'Connor, Kirkpatrick, Telfer, J. A. Hutchison, Reed, Mills, Jas. Stewart, Buller, DeCow, Allen, Kinloch, Lockhart, Geo. Brown, G. G. Campbell, Ed. Blackader, W. G. Stewart, A. Gardner, Roddick, J. A. MacDonald, Foley, and McCarthy.

The President having called the meeting to order, the following resolutions of regret at the death of Dr. Robert Townsend Godfrey were proposed by Dr. T. D. Reed, seconded by Dr. James Stewart, and carried unanimously :—

"That this Society has learned with the greatest regret of the death of Dr. Robert Townsend Godfrey, one of its founders, and a former president. Dr. Godfrey was a constant attendant, for many years, at the meetings of the Society, and at all times manifested his interest in scientific and practical work, by discussions and contributions. His very large experience in family practice made his opinions of great weight. His quiet, friendly manner and sympathetic words to his confreres endeared him to all who had the pleasure of his acquaintance.

"Resolved,—That our deepest sympathy be conveyed to his sorrowing family in this their time of mourning."

After the minutes of the preceding meeting had been read and adopted, Dr. Auger was elected a member.

The Treasurer (Dr. J. A. MacDonald) presented his annual report, which showed, notwithstanding some arrears, a fair sum to the credit of the Society. It was moved by Dr. Roddick, and seconded by Dr. J. J. Gardner, that the treasurer's report be adopted. Carried.

The retiring Secretary (Dr. McCarthy) stated that the regular fortnightly meetings of the Society had been duly held during the past year; that a greater number had taken part in the proceedings, and that the attendance had been greater than in previous years. The membership had considerably increased; no

less than sixteen new members were admitted, making to date a total membership of one hundred and eight members.

The address of the retiring President was announced for the next meeting.

Votes of thanks to the retiring president, vice-presidents, members of council, and secretary were then carried.

The following were elected office-bearers for the ensuing year :—

President—Dr. F. Buller.

1st Vice-President—Dr. James Stewart.

2nd Vice-President—Dr. E. P. Lachapelle.

Secretary—Dr. Kenneth Cameron.

Treasurer—Dr. J. A. MacDonald (re-elected).

Librarian—Dr. T. D. Reed.

Council—Drs. Perrigo, Wesley Mills and James Bell.

During the summer recess the Society held two special meetings, presided over by the President, Dr. F. J. Shepherd, to pass resolutions of condolence at the loss of two of its most active and esteemed members.

A special meeting was held August 5th, at which the following resolutions were unanimously adopted. Moved by Dr. Hingston, and seconded by Dr. Wesley Mills :

Resolved, that this Society records with the deepest regret its sense of the loss which it has sustained in the death of Dr. Richard Lea MacDonnell, one of the most able and efficient members, who not only took part in its debates, but by valuable papers contributed from time to time, added not a little to the progress of medical science.

Resolved, that, in the opinion of this Society, Dr. MacDonnell's death, at a time when his usefulness was greatest, is a loss to the medical profession of Canada, in which he took a high place as a teacher and writer, and earnest scientific investigator.

A special meeting was held August 12th, at which the following resolutions, moved by Dr. Geo. Ross and seconded by Dr. Roddick, were also unanimously carried :

Resolved, that this Society has learned with most profound regret of the death of Dr. Thomas Anderson Rodger, one of its most active members and a past president of the Society. Engaged in a wide and busy practice, Dr. Rodger was ever ready to discuss, from the advantageous standpoint of his large experience, the scientific points raised in the many papers brought before us. His hearty genial personality made him the friend of everyone, and his accustomed presence will long be missed among us.

1891.

THE CHAIR.

— E. Vipond and —

DR. SHEPHERD showed a young
man growing from the left
about four years ago as a
tumour. It grew slowly.
It had been very rapid and
had a bony hardness
from the periosteum
of the bone. It was
of the nature of a
tumour, as the
bone had to be removed.
It was due to circulation and
not to a tumour. Rectal
tumour.

DR. SHEPHERD. Dr. Shepherd
showed a tumour before, but that

DR. SHEPHERD exhibited a
tumour of interest in that it
was a man of 68 years
old. It was a large numbers
of tumours. It had never
been removed. It was of their source
and would become
detached
just within
the rectum.

DR. SHEPHERD showed a calculus from
the rectum. It was a preliminary for
the removal of stone.
It was discovered
in the rectum. It was a slough-
ing tumour.

Vesical Calculus.—DR. SHEPHERD exhibited a calculus of a peculiar shape, being of the same size and thickness as a 25 cent piece. It had been removed from a man aged 70, from whom he had removed a stone two years before. The symptoms were obscure and the diagnosis was doubtful, and it was only after very careful examination that the stone was detected. The surgical operation was performed, and at first the stone could not be found, but was ultimately seized and withdrawn.

Two Solid Ovarian Tumours.—DR. WM. GARDNER exhibited two specimens. The first was from a patient, aged 59, who had consulted him last spring for symptoms of chronic cystitis. A tumour was easily discovered, which she said had been diagnosed eight years previously, and since then had not shown any growth. Under injections of arg. nit. the symptoms were relieved. She came back recently with a return of the symptoms, and had in her possession a concretion which she had passed by the urethra. This was sent to Dr. Ruttan for examination, and he reported that it contained nothing cystic, but was composed of fibrous tissue of some kind that had undergone calcareous degeneration. On opening the abdomen the tumour was found lying deep down in the pelvis, between the layers of the broad ligament on the left side, and resting against the base of the bladder. It was removed by enucleation. On examining the tumour, an opening was found which led to a cavity in which lay a concretion exactly similar, to the naked eye, to the one she had passed by the urethra, and which had probably ulcerated through into the bladder, though no evidences whatever could be found that the bladder had been opened. Dr. Johnston, after a microscopical examination, reported the tumour to be a pure fibroma of the ovary.

The second specimen was from a patient aged 60, mother of a child, born many years ago. There had been no suspicion of a growth until ten months ago, when on consulting her physician for abdominal symptoms he had discovered it. On opening the abdomen the tumour was found on the left side and had a convenient pedicle. There was one adhesion to the sigmoid flexure or upper part of the rectum, from which troublesome

Stated Meeting, Oct. 23rd, 1891.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

New Members.—Drs. F. E. Devlin, A. E. Vipond and — Bruyère were elected members.

Enchondroma of the Ilium.—DR. SHEPHERD showed a young man, the subject of an enormous tumour growing from the left side of the pelvis. It had commenced eight years ago as a fixed tumour of doubtful origin; for four years it grew slowly, but for the last few months the growth has been very rapid and attended with much pain. It is nodulated and of bony hardness in places. It is an enchondroma springing from the periosteum of the ilium, and presents many difficulties for operation, as the greater part of the pelvis on that side would have to be removed. The hip-joint is unaffected, but the obstruction to circulation and pain down the leg indicate involvement of foramina. Rectal examination was negative, revealing no hard tumour.

Speaking of the occurrence of such tumours, Dr. Shepherd said that he had not seen one in this situation before, but that they were not uncommon on the scapula.

Vesical Tumour and Calculi.—DR. JAS. BELL exhibited a small tumour of the bladder, which was of interest in that it was associated with six calculi. The patient, a man of 68 years of age, had for the last eight years been passing large numbers of small, rough phosphatic calculi by the penis, but had never suffered from renal symptoms. The explanation of their source is, probably, that the rough surface of the tumour would become covered with a deposit, particles of which becoming detached formed nuclei for stones. The tumour was situated just within the bladder on the right lobe of the prostate.

Vesical Calculus.—DR. BELL also exhibited a calculus from a man, aged 73, who had been suffering great pain, and upon whom he had performed supra-pubic section as a preliminary for prostatectomy. He had not been previously examined for stone, and, in fact, it would have been very difficult to have discovered it, as the prostate projected one and a half inches into the bladder and in behind it lay the stone. The prostate presented a sloughing extremity, which was removed.

Vesical Calculus.—DR. SHEPHERD exhibited a calculus of a peculiar shape, being of the same size and thickness as a 25 cent piece. It had been removed from a man aged 70, from whom he had removed a stone two years before. The symptoms were obscure and the diagnosis was doubtful, and it was only after very careful examination that the stone was detected. The lateral operation was performed, and at first the stone could not be found, but was ultimately seized and withdrawn.

Two Solid Ovarian Tumours.—DR. WM. GARDNER exhibited these specimens. The first was from a patient, aged 59, who had consulted him last spring for symptoms of chronic cystitis. A tumour was easily discovered, which she said had been diagnosed eight years previously, and since then had not shown any growth. Under injections of arg. nit. the symptoms were relieved. She came back recently with a return of the symptoms, and had in her possession a concretion which she had passed by the urethra. This was sent to Dr. Ruttan for examination, and he reported that it contained nothing cystic, but was composed of fibrous tissue of some kind that had undergone calcareous degeneration. On opening the abdomen the tumour was found deep down in the pelvis, between the layers of the broad ligament on the left side, and resting against the base of the bladder. It was removed by enucleation. On examining the tumour, an opening was found which led to a cavity in which lay a concretion exactly similar, to the naked eye, to the one she had passed by the urethra, and which had probably ulcerated through into the bladder, though no evidences whatever could be found that the bladder had been opened. Dr. Johnston, after a microscopical examination, reported the tumour to be a pure fibroma of the ovary.

The second specimen was from a patient aged 60, mother of one child, born many years ago. There had been no suspicion of a growth until ten months ago, when on consulting her physician for abdominal symptoms he had discovered it. On opening the abdomen the tumour was found on the left side and had a convenient pedicle. There was one adhesion to the sigmoid flexure or upper part of the rectum, from which troublesome

hemorrhage occurred. There were no secondary growths found in the abdomen or pelvis. Dr. Johnston reported the tumour to be a malignant adenoma of the ovary. The prospects for this patient are not very good, though from the fact that the tumour was isolated, with a pedicle into which there was no extension of the disease, that there were no metastatic deposits, and from experience that the disease has not recurred in many similar cases, the patient's life may be saved. In cases where the indications or suspicions of malignancy are strong, operation should be performed with as little delay as possible.

Late Perforation in Typhoid Fever.—DR. LAFLEUR exhibited this specimen and gave the following report of the autopsy: Abdomen presented tympanitic distention, and percussion showed loss of liver dulness, an indication of gas in the peritoneal cavity. On opening the abdomen there was general purulent peritonitis, both the visceral and parietal peritoneum showing patches of ecchymoses; 50 c.c. of sero-pus removed; intestines agglutinated by a grayish-yellow fibrinous material. On opening the bowel, general characteristic typhoid ulceration was found extending for six feet above the ileo-cæcal valve and down to the rectum. It was late, probably about the middle of the fourth week, sloughs had already separated and healing had begun. About five or six inches above the valve a pin-hole perforation was found at the base of an ulcer, which was oval in shape and situated across the bowel, representing only a part of a Peyer's patch, the rest being quite normal. The whole of the ileum was weak, the muscular coat having become degenerated and œdematous, and as it was enormously distended with gas, it is not to be wondered at that perforation took place.

DR. JAMES STEWART stated that the patient, a young man, aged 25, an inebriate, had died on the fortieth day of the illness, having been in hospital for three weeks. The treatment for the last two weeks was solely by the cold bath. The only clinical evidence of perforation was the sudden fall of temperature from 101° to 96°, as the patient was in a stuporose condition and did not complain. Dr. Stewart regretted that the baths had not been given from the first, for though this form of treatment does

not seem to alter the course or duration of the disease, yet patients seem to recover better after it.

DR. HINGSTON asked if the temporary reduction of temperature is of unmixed value. He attributed greater importance to the temperature than to the pulse in surgical cases, and did not approve of sudden lowering.

DR. MCGANNON asked if warm bath treatment had been tried at the hospital.

DR. STEWART, in answer, stated that statistics proved that by this mode of treatment the mortality had been reduced 40 or 50 per cent. There is a great deal more than the reduction of temperature,—there is a marked benefit to the whole system, and patients so treated soon assume a different aspect to that which is so well known and characteristic of typhoid fever.

DR. LAFLEUR said that from the experience he had had of the treatment in the Johns Hopkins Hospital he fully agreed with Dr. Stewart. The clinical picture of one who has had the cold bath treatment is very different from one who has been treated otherwise. There is a general stimulating effect upon the circulation and upon the nervous system.

DR. SHEPHERD, the retiring president, then read his address. (See page 359.)

manner, and how the wide universe may be brought within the field of view of even the young student. May men of the Bucke type multiply in the profession!

A MUNIFICENT DONATION.

The Montreal General Hospital will shortly receive the sum of one hundred thousand dollars, the benefaction being made in the will of the late George Chetwode Hamilton. This princely sum is left at the disposal of the Board of Managers, to be employed in such manner as will best conduce to the promotion of the work of the hospital. There are few cities that have been so highly favoured as Montreal in the promotion and foundation of educational and charitable institutions. Hardly a month passes by without a bequest of some tangible kind being recorded. The late Mr. Hamilton's large-hearted benevolence will place the Montreal General Hospital in a position to further extend its usefulness.

Personal.

James Stewart, M.D., has been appointed to the chair of Clinical Medicine in McGill University.

A. D. Blackader, M.D., has been appointed to the chair of Materia Medica and Therapeutics in McGill University.

R. F. Ruttan, M.D., has been appointed Assistant Professor of Chemistry and Registrar in the Medical Faculty of McGill University.

MONTREAL MEDICAL JOURNAL.

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

GEORGE ROSS, M.A., M.D.,
Professor of Practice of Medicine, McGill University.

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Professor of Surgery, McGill University.

AND

JAMES STEWART, M.D.,
Professor of Clinical Medicine, McGill University.

DECEMBER, 1891.

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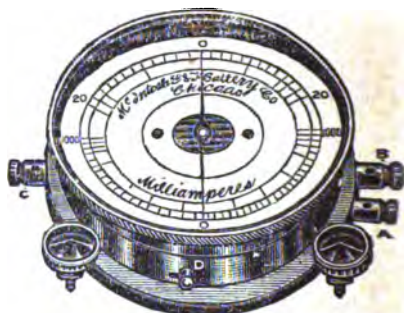
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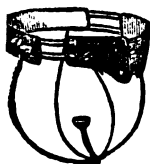
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

DECEMBER, 1891.

No. 6.

Original Communications.

CONSERVATIVE SURGERY OF THE EYE.*

By F. BULLER, M. D.,

Professor of Ophthalmology and Otology, McGill University; Ophthalmic and Aural Surgeon to the Montreal General Hospital.

There is probably no disease of the eye so dreaded by the ophthalmologist as the one called *sympathetic ophthalmia*. Unlike other inflammatory affections of the eye, which for the most part are revealed by honest outspoken symptoms, of themselves almost suggestive of suitable remedies, and characterized by a willingness to gracefully yield to the recuperative powers of nature, aided, perhaps, by rational therapeutics, we see in sympathetic ophthalmitis a sort of "snake in the grass", among ocular diseases, an insidious process which may have advanced far in its destructive course before its presence is even suspected, unless, perchance, the subject happens to be under the daily observation of some one keenly alive to the danger; and even then it is doubtful whether a genuine plastic iridocyclitis of sympathetic origin can be arrested or dealt with successfully, when it has once gained ever so small a foothold in the sympathizing eye.

Taking into consideration the subtle character of this disease, its virulence when once established, and when we bear in mind that up to the present time no reliable method of treatment is recognized, also that this disease usually means hopeless blindness of both eyes, for the exciting eye has generally been lost

* Read before the Canadian Medical Association, at Montreal, September, 1891.

by the original disease or injury through which it obtained its malevolent influence, we are in a position to understand the anxiety of ophthalmic surgeons to prevent the onset of a morbid condition over which they have so little control. Fortunately an efficient method of prevention was long ago discovered in the early enucleation of the injured eye, and it may be laid down as a law that sympathetic ophthalmia seldom occurs if the diseased or injured eye be enucleated before any manifestations of sympathetic disease have occurred in the sound one. I say seldom, because it is well known that a plastic iridocyclitis occasionally occurs at any period, up to three or four weeks after enucleation of the injured eye. A case of this kind I may be excused for placing on record, since it is of great clinical interest, and has not yet been published :

In the month of October, 1885, a boy, 13 years of age, was brought to the Montreal General Hospital on account of an injury to the left eye, received three weeks previously. He was engaged in piling cordwood, when a round stick fell end foremost from above, striking the upper surface of the eye and causing an extensive rupture of the eye-ball through the ciliary region and *parallel with the lower margin of the cornea*, just as commonly happens *above* the cornea when the force comes from below the horizontal meridian of the eye-ball. The ruptured and shrinking eye-ball had already lapsed into a state of chronic iridocyclitis, and being lost for all visual purposes an immediate enucleation was performed. The patient remained under observation for about a week, during which time the sound eye was carefully examined for possible sympathetic trouble, but of this there was no discoverable sign. A month later he was brought again, a distance of some two hundred miles, to the hospital on account of failing vision in the remaining eye, which was found to be affected with a plastic iritis, the first signs of which were noticed by his watchful father three weeks after his return home, or four weeks from the date of enucleation. A plastic iritis with extensive posterior synedriæ coming on insidiously, almost without pain and with great impairment of vision, were the principal features of the inflammatory process now affecting the previously sound eye. The eye made a good recovery with a six weeks

course of treatment, illustrating the rule that when *sympathetic ophthalmia breaks out after the exciting eye has been removed, it occurs in a less virulent form than where enucleation has been delayed until the sympathetic affection has actually made its appearance.*

This fact appears to be one of very great importance, not only on account of its prognostic value, but because it gives us an insight as to the nature of the disease, which fully establishes the *rationale* of its prevention. It is the strongest possible proof that the exciting eye continues to supply some morbid influence to its congener so long as it remains undisturbed. This might, of course, be the case whichever theory of the etiology of sympathetic ophthalmia we choose to accept, but since we may discard as untenable every explanation of the nature and origin of so-called sympathetic ophthalmia, excepting the bacterial, we have simplified the problem of prevention, at least to the extent of directing our attack against an enemy no longer in ambush, but entrenched in a camp, easily accessible to our surgical forces.

Speaking of the theories of sympathetic ophthalmia, I have always been at a loss to understand how the neuropathic theory ever came to be generally accepted, its most substantial support being an isolated observation or two (probably imaginary) on the part of an ophthalmologist of high repute in his day, that sympathetic ophthalmia commenced in the sympathizing eye at a point symmetrical with the seat of injury in the exciting eye. The result of this observation shows how a fallacy emanating from some high authority may tend to retard the acquisition of truth. There is certainly nothing else in physiology or in neural pathology at all parallel with the phenomena of sympathetic ophthalmia. If the bacterial explanation be accepted (and even of this positive proof is wanting) we have in it an adequate explanation of the lapse of time between the original injury and the outbreak of sympathetic disease as well as for the immunity which an early enucleation commonly secures, and also of the less virulent form which we occasionally meet with after timely enucleation. But we have also in these facts a forcible intimation that some less radical procedure might accomplish the purpose of enucleation with equal certainty. Here, if anywhere,

conservative surgery presents its strongest claims. Ask anyone who has submitted to enucleation how much he would have preferred a harmless though maimed eye-ball to the artificial one. Observe how much better the appearance of an artificial eye worn over a shrunken globe or a good stump than where enucleation has been performed.

This brings me to the points I wish more particularly to emphasize. It is, I believe, generally conceded that children and young people are more liable to sympathetic ophthalmia than those of maturer years. Whether this belief comes from the greater liability of children to accidents of a certain kind, or whether there actually exists in them a stronger tendency to develop sympathetic trouble, I do not pretend to know, but that very many children do become the victims of sympathetic ophthalmia is a matter of common observation. It is also true that in children a threatened sympathetic trouble becomes a cause for still greater anxiety on account of the difficulty of making accurate observations and detecting slight changes in the eyes of this class of patients.

For these reasons I am aware that many ophthalmic surgeons, especially in England, do not hesitate to advise the removal of injured eyes in children, whenever the sound eye may be considered to run even a moderate risk of sympathetic ophthalmia. A few years ago I myself would hardly have questioned the soundness of this practice, but I have gradually learned to take a very different view of this subject, and indeed I am prepared to maintain that *the eye of a child should never be enucleated on account of an injury unless sympathetic ophthalmia has actually occurred.* In the first place, it is an operation which irrevocably fastens upon the unfortunate a life-long disfigurement, and one which intensifies with advancing years, for no matter how carefully an artificial eye may be adjusted the conjunctival sac fails to develop normally, and there will in many cases, after the eye of a young child has been removed, come a time when it will no longer be possible to adapt an artificial eye to look presentable. Too often, perhaps through negligence, this period is reached long before the child has reached maturity. It is easy to understand how parents hesitate to accept the counsels

of prudence in the face of a disaster so grievous as the sacrifice of an eye-ball, no wonder they run the fatal risk rather than agree to a life-long mutilation of their offspring.

It is the surgeon's task to find a safe way out of the dilemma. It is here that conservative surgery of the eye may achieve its greatest triumphs.

We have only to concern ourselves at present with serious injuries of the eye, which we may divide into two classes :

(a) Those which are likely to be followed by great damage to or total loss of vision.

(b) Those in which vision is obviously destroyed.

In the first of these two classes, the surgeon will be in duty bound to spare no pains in order to save as much vision as possible, and on no account to sacrifice the eye-ball if there is a reasonable chance of protecting the other eye from sympathetic trouble in any other way. In the second class of cases two courses are open to him ; they are, either to remove the hopelessly blind eye immediately, or to preserve so much of it as will afford a good moveable stump for an artificial eye to rest upon.

In class *a* will be found far the greater number of serious injuries of the eye-ball, and it is in dealing with this class that the surgeon's knowledge, skill, judgment and experience will be most severely tested.

One of the leading English authorities of the present day says that " when the wound is in the dangerous region (the ciliary), and complicated with cataract, excision is without doubt the safest course in all cases " ; thereby implying that excision should always be done under these circumstances. Even when the wound is entirely corneal, with injury of iris and lens, he says : " If the corneal wound be large and irregular, excision is necessary," the same, too, " if the corneal wound be small, and persistent irritation ensue." I cannot concur in any of these statements, since with antiseptic precautions there are many cases in the first category which will turn out well if all entangled iris or other portions of the prolapsed uvea are carefully removed and the wound united by means of one or more fine silk sutures. In addition to this, cold antiseptic dressings and other well known antiphlogistic measures may be required for some time after-

wards, and the wounded lens, if not sufficiently soft and opaque to be extracted when first seen, may subsequently require to be removed either partially or completely.

If, in the course of two or three weeks, the condition known as chronic iridocyclitis should appear, excision may still be avoided by substituting resection of the optic nerve or evisceration of the eye-ball, either of which would, especially in young persons, be preferable to enucleation of the globe. Of the two procedures I decidedly favour resection of the optic nerve if the condition of the injured eye is such as to indicate grave danger of sympathetic ophthalmia, more particularly if at the same time the eye bids fair to retain a presentable appearance. On the other hand, evisceration and the insertion of an artificial vitreous might well be done when the anterior part of the eye-ball has been greatly damaged, and when with a lost and collapsing eye a sufficient time has not elapsed to endanger its fellow.

With regard to resection of the optic nerve not protecting the sound eye against sympathetic ophthalmia as efficiently as enucleation, the opponents of the former operation claim to have seen sympathetic ophthalmia follow resection of the nerve, and hence they say the operation is not to be depended on. I answer, the same is true of enucleation. Where is the ophthalmic surgeon of long experience who has not seen sympathetic ophthalmia break out several days or weeks after enucleation. Let us, then, be fair in our judgment of the more scientific and more humane operation, at least until wider experience has pronounced against it. Let us be certain, too, that bad results are not due to badly performed operations. Every one knows how much the result of any surgical operation depends upon attention to detail. For some years past I have always endeavoured to repair wounds of the eye, no matter what their situation or extent, if there appears to be reasonable prospect of preserving a presentable looking eye. If after two or three weeks there seemed to be real danger of sympathetic ophthalmia, I have resorted to resection of the optic nerve in preference to enucleation, and I have not once been disappointed in the result. In performing this operation I pay the most scrupulous attention to antiseptic precautions, first washing the face, and especially the eyelids,

with soap and water, then both these and the entire conjunctiva with perchloride solution. The patient must be anesthetized, and all the instruments used are to be thoroughly aseptic, as well as everything else likely to be used about the eye. As for the operation, it is commenced by dividing close to the ocular attachment, either internal or external rectus. With an ordinary fixing forceps the eye is then rotated strongly outward or inward as the case may be, and the closed blades of a pair of blunt-pointed excision scissors are carried far back, nearly to the apex of the orbit, along the optic nerve; this is then divided about half an inch behind the globe. There is then no difficulty in further rotating the globe till the ocular end of the nerve comes into view, so that it may be cut off close to the eye-ball and the resected portion lifted away. Bleeding may be pretty free at first, but is readily checked by pressure of an aseptic morsel of sponge carried with the fixing forceps to the space behind the eye. When bleeding has pretty well ceased, the deep end of the nerve is syringed for a few minutes with solution of perchloride (1-2000). Finally, the retracted tendon is fished up with a small double hook and reunited by a central and two lateral points of suture, and the eye dressed with antiseptic dressing. It is an important point not to pass the sutures through the conjunctiva on the scleral side of the wound. I use fine needles and No 2 silk. Done in this way only a moderate reaction follows, and the eye is practically well by the fifth day, when the stitches may be removed.

In the second class of severe injuries (class *b*) the eye-ball is soft from large loss of vitreous, etc., and the sclerotic cavity is more or less filled with blood, under these circumstances vision being hopelessly lost. I resort to immediate evisceration, first cutting away the cornea and enough of the sclerotic on either side to make a pointed lozenge-shaped aperture. This will admit of inserting an artificial vitreous. After wiping out all the contents of the sclera, and waiting until bleeding has entirely ceased, the glass globe may be inserted and the transverse wound in the sclerotic united with four black silk sutures (No. 2 iron-dyed); a conjunctival suture may also be placed at either angle. Finally, the conjunctiva is again thoroughly washed with per-

chloride solution, dusted with finely-powdered iodoform, and an absorbent cotton pad saturated with the same applied by means of a compressive bandage. A considerable reaction may be expected, with some pain, for a few days. To an adult I give ten grains of phenacetin at night, or morphia if the pain is severe. At the end of forty-eight hours the bandage may be removed. If all goes well the scleral and conjunctival wound will be found united and the conjunctiva free from secretion. If there is much swelling, iced compresses soaked in weak perchloride solution should now be used until it subsides.

Managed in this way the operation of inserting an artificial vitreous has been entirely satisfactory. I have not met with any of the accidents we read about, and which I am inclined to think depend largely on want of attention to details. The mistakes being, first, in imperfect antisepsis, at every step of the operation this must be most vigorous; second, in faulty removal of cornea, the aperture being made circular instead of elongated; third, incomplete arrest of hemorrhage before inserting the glass globe; fourth, in the insertion of too large a globe. The latter should always lie quite loosely in the scleral cavity.

I do not, of course, pretend to have covered the whole ground included in the title of this paper, but enough has been said to indicate the propriety of reform in the matter of enucleating eyes which might in all probability be safely retained. I have not discussed that large class of cases in which foreign bodies are hidden within the eye-ball, but in these also I am under the impression that enucleation is often unnecessarily performed. I hope at some future time to have the privilege of dealing with this part of the subject more fully than the present occasion will allow. Before closing, permit me to show you two patients upon whom I have recently operated.

The first of these is a stone-breaker. On the 8th of August I removed from one of his eyes a rough fragment of iron, about the size of half a small filbert. It had penetrated through the centre of the cornea and of course enormously damaged the eye. Three weeks later the eye-ball was becoming squared, and had all the appearance of a dangerous eye; the other eye as yet,

however, showing no signs of sympathetic trouble. I eviscerated the injured eye and inserted an artificial vitreous according to principle already laid down. This was two and a half weeks ago. You see the result ; he is now wearing an artificial eye. It would puzzle any one but an expert to tell which is which. The uninjured eye remains strong and well.

The second case illustrates a class of injury not at all uncommon, but too often badly managed. A week ago to-day this young man came to me a few minutes after having had the right eye cut by an exploding soda-water bottle. There was a penetrating wound about four millimetres in length at the inner sclero-corneal junction, but not through the cornea. Through the wound a knuckle of iris presented. I tried to replace it with spatula and fine probe, but it always popped out again. I then punctured the prolapse with a cataract knife, thus drawing off the aqueous humour ; after this I succeeded easily in replacing the iris into the chamber, and instilled a drop of eserine solution four grains to the ounce. A compressive bandage over both eyes for three or four days constituted the after treatment. There is now scarcely a trace of the injury. The pupil is slightly oval and a little displaced towards the seat of injury, otherwise the eye seems perfect. The interesting point in this case is the effect of drawing off the aqueous humour. The prolapse could not be restrained until this had been done, and I believe the eserine was of use in helping to prevent a recurrence of the prolapse before the wound became firmly united.

THE OBSTETRIC FORCEPS.*

By F. A. L. LOCKHART, M.B. AND C.M. (EDIN.),

Fellow of the Obstetrical Society of Edinburgh; Late Clin. Assistant in the Gynaecological Wards of the Edinburgh Royal Infirmary.

The Forceps in Labour.—The forceps is an instrument for applying to the presenting part of the child, whereby the maternal efforts at expulsion may be aided or supplanted.

The idea of the forceps first originated with Hippocrates, who suggested applying the hands to the presenting part wherever possible in order to assist delivery of the child. He even had an instrument for this purpose, but history does not say what it was like. Soranus and Celsus also had an instrument for the same purpose, but the real forceps was not invented until the 16th century.

Peter Chamberlen, descended from a long line of medical practitioners, was born about the middle of the 16th century, and to him may be ascribed the honour of inventing and using the obstetric forceps. The exact year of the invention is shrouded in obscurity, but it probably occurred about the end of the 16th or the beginning of the 17th century. The glory of inventing this invaluable instrument is somewhat dimmed by Chamberlen's actions concerning it, for he successfully kept it a secret for the use of himself and his family for many years. However, it is not my place to pass judgment on an action that took place so long ago, when the code of medical ethics must have differed so materially from ours of the present day. In 1670 Chamberlen went to Paris to try and sell his secret, but was unsuccessful through his failing to deliver a woman, although he tried for three hours. He was more successful in 1690, however, for he sold the instrument to the famous Dutch obstetrician Roonhuysen for a large sum. The purchaser, in his turn, made money out of it, for he, with two others, formed a board of examiners before whom all men wishing to practice obstetrics in Amsterdam had to appear and were compelled to buy the forceps before they were granted their license. Fortunately for posterity, a man named Rathlaw obtained drawings of the Chamberlen instrument

* Read before the Canadian Medical Association, at Montreal, September, 1891.

from a student of Roonhuysen's and published a description of it in 1732. From this date the forceps has been common property of the profession, and the improvements and modifications have been innumerable.

The original Chamberlen forceps consisted of two fenestrated blades with handles that crossed, the lock consisting of a pin in one blade which fitted into a socket in the other. The blades were curved laterally in order to fit the child's head, this curve being called the "cephalic curve." Nearly all forceps up to the present day have the blades crossed, but Palfyn, in 1716, introduced a pair of forceps with broad, flat, unfenestrated blades with parallel handles and no lock, but the latter was soon added.

The earliest important improvements were made by Levret and Smellie. Until 1747 the forceps had but one curve, the cephalic, so were awkward to apply unless the head was very low down in the pelvic cavity, but in that year Levret of Paris lengthened the forceps and added another curve—*i.e.*, the "pelvic curve"—thus rendering them more adaptable to the pelvis. In 1762 Smellie lengthened the handles and added a sink lock, called the Smellie lock, which most British and many Continental forceps still retain. Smellie also covered the handles with wood and the blades with strips of leather. He also used the old short forceps, adding his lock. The forceps of Sir J. Y. Simpson is very much like Smellie's, but there are one or two points of difference between them. In Smellie's, the cephalic curve starts from the lock, whereas in Simpson's there is a sharp curve outwards at the lock from which the shafts run parallel to each other about an inch apart for a short distance, and then assume the cephalic curve. Simpson's also has a lateral projection on each side, just where the handle joins the shaft, which gives the operator a good hold.

With all the above-mentioned instruments there is difficulty in exerting traction in the axis of the brim, owing to the perineum being in the way. To overcome this, another curve, the "perineal curve," was added, but this makes rather a clumsy instrument. To effect the same purpose, *i.e.*, to exert traction in the axis of the brim as well as in whatever axis the head may be lying, the

"axis traction forceps" was invented. The idea of this was probably introduced by Stein in 1767, as he passed a cord through the fenestræ of his forceps and made traction by it. Hubert, in 1860, introduced the first instrument that can be called an axis-traction forceps, as he fastened a bar, curved and running downwards, to the handle. Tarnier, however, may be called the true inventor of the axis-traction forceps. He attached curved rods to the back part of the fenestræ of ordinary forceps. These were quite moveable in an antero-posterior axis, and ran backwards to be attached to a transverse bar by which the traction is exerted. This instrument of Tarnier's has undergone various modifications, he making thirty different models himself before he was satisfied. Professor Simpson of Edinburgh applied Tarnier's traction-rods to the Simpson forceps, and the latest and best instrument is a modification of the Simpson-Tarnier forceps by Milne Murray of Edinburgh. This instrument consists of a pair of Simpson forceps, the handles of which are fastened together by a moveable bar attached to one handle, which fits into a slot in the other, and is secured by a nut. This is called the fixation screw. The traction rods consist of a pair of curved steel rods attached to the blades just posterior to the fenestræ. These are fastened together at the other end by a pin on one rod passing through an eye in the other and held there by a sliding bolt. On the posterior surface of the extremity of each rod is a button which fits into an eye on the traction handle. This latter is a transverse bar of wood working with a swivel joint. Dr. Murray has just made another modification of the above forceps, but I have not been able to obtain details of it in time for this paper, so all that I can say about it is that the new instrument is made entirely of metal. In order to avoid any mistake about the handles of this instrument in speaking or writing about it, the handles of the forceps proper are called "application handles," while that attached to the rods is the "traction handle."

Mode of Application.—All here are familiar with the usual mode of application of the old forceps and of the old rule of "left lower first." This last, however, is not practised by all, for, in the *British Medical Journal* of Oct. 25, 1890, Hancock

Steil describes a method by which the upper blade is introduced first. The following are his own words : " The membranes having been ruptured and the os fairly dilated, pass the upper blade (first through the vulva into the vagina inside the os to the left side of the presenting head) just as if it were the lower blade. The handle is raised somewhat above the right buttock and points to the middle of the outer side of the right thigh ; as the blade passes in following the curve of the foetal head, it (the handle) drops and comes opposite the vulva ; then, completing the curve, it lies in the fourchette. The concavity of the edge of the blade now faces the hollow of the sacrum. Now gently rotate the handle from left to right, at the same time drawing it downwards towards the bed and a little forwards towards the thighs ; by this movement the blade passes from the left temporal region to the frontal. As it passes over the frontal bones, the handle makes a sweep describing an arc of a circle—the convexity of the arc being towards the bed. Continue the movement in the interval between the pains, withdrawing the blade a very little and then reintroducing it, so avoiding any obstructions ; the handle then comes back to the fourchette with this difference : at first the outer surface of the handle faces upwards, whereas now it is looking downwards towards the bed. The blade is now accurately applied to the right side of the head. Next introduce the lower blade, only pass it ' posteriorly to the upper.' " This method is practised with the patient in the left lateral position, as is usual in Great Britain. Dr. Steil was not the originator of the method, for it was taught at Belfast as early as 1862, as well as by Mr. Wheelhouse at Birmingham. The advantage claimed for the above method is that you don't require to bring the patient's buttocks over the edge of the bed in order to introduce the upper blade, but I fail to see its superiority over the following way taught in Edinburgh. The patient is on her left side with her knees well drawn up, the right one being supported by the nurse or by pillows. Introduce the lower blade first, as usual. In introducing the upper blade, hold it so that its long axis is horizontal with the bed and at right angles with the patient's body, keeping the blade close to the palm of the guiding (left) hand. If this

is done correctly, you will find that you can introduce the upper blade and lock the forceps without the blade touching the bed at all.

The application of the axis-traction forceps needs a little more careful description, as, unless one is extremely careful, the traction rods are found to be in the way and to interfere with locking the blades. Introduce the lower blade first, as with ordinary forceps, and be careful that the traction-rod is posterior to the handle. Before introducing the upper blade, see that its traction-rod is carried *in front* of the handle. It is owing to this direction not being carried out that difficulty is experienced in locking the blades, as the rod gets in the way. Now introduce the upper blade and lock it. Next carry the upper traction-rod back to its proper place and fasten the fixation-screw. After doing this, fasten the traction-rods and put on the traction handle. In removing the forceps reverse the above order of proceeding, being sure to carry the upper traction-rod in front of the application handles as soon as you have removed the fixation screw.

Actions of the Forceps.—1. *The use of the forceps is exerting traction, and all other actions are secondary.* It is essentially an instrument for supplying vis a fronte where the vis a tergo is inefficient. The traction should be exerted as nearly in the axis of the pelvis in which the head lies as possible, and for this purpose the axis traction forceps is much the best, for the line of traction passes as nearly as possible through the centre of the child's head, the position of which is indicated by the application handles. In making traction with the axis-traction forceps, the traction-rods should be kept nearly touching the application handles all the time that traction is being exerted.

2. The forceps acts also as a *compressor* and where the head is only just too large to pass spontaneously through the pelvis; this action of the forceps is very useful.

3. Some authorities advocate using the forceps as a *rotator*, but this is apt, as a general rule, to be injurious. However, when the head is well down in the pelvis and rotation is insufficiently effected by nature, you may aid the latter by gentle attempts at rotation, using the short straight forceps.

4. As a *lever*, but this action is doubtful, unless, in exerting traction, you use it as a lever of the first or third order. If so, the head is the weight, while the left hand at the shaft is either the fulcrum or power, as the case may be.

5. The *dynamic* action is uncertain. In cases of inertia, the insertion of even one blade into the vagina stimulates the uterus to fresh exertion, acting as a foreign body, but this cannot always be counted on, and I have even seen the introduction of the forceps followed by complete cessation of what few pains there were.

The *indications* for the use of the forceps may be divided into *fœtal* and *maternal*.

Fœtal.—1. In cases where the cord is prolapsed past the head and can't be replaced, you should apply forceps and deliver as quickly as possible.

2. Where the pelvis is normal and head large, delivery may be effected by forceps. This does not apply, however, to hydrocephalic fœtuses, as here you require to draw off the fluid before attempting to extract the child.

3. In breech presentations, you may need to assist delivery of the head by forceps, and this is very good treatment where pressure from above fails, often saving the life of the child.

4. After decapitation, the head should be extracted by forceps.

5. Face cases may require delivery by forceps if the head remains long in the pelvis. Delivery here is difficult, owing to the forceps not getting a good hold and so slipping. Unless the chin is anterior, it is almost useless to apply the forceps, as a living child can but rarely be so delivered.

While speaking of face cases, I may mention a face case, complicated with backward displacement of both arms, reported by Milne Murray, as instancing the superiority of the axis-traction forceps over the old instrument. When first seen, the face was lying transversely above the brim, the occiput being in the left side and the head not engaging. After the escape of the waters the head descended and engaged in the transverse, the fronto-mental diameter of the head corresponding to the transverse diameter of the pelvis. In time the chin slid round and lay impacted against the right sacro-iliac joint, becoming fixed in this

position. For various reasons turning was not employed, but the old Simpson forceps was applied nearly in the left oblique. After exerting as much traction as was considered justifiable without any appreciable result, the forceps was removed, and it was resolved to give the case a chance of terminating spontaneously. As no change in the position of the head occurred during the next six or eight hours. Dr. Murray applied Professor A. R. Simpson's axis-traction instrument. This had to be locked by passing a pin through a fixed eye in the handles, and in order to do this a great deal of compression had to be applied to the head, so an attempt was made to use them as ordinary forceps without locking the blades. This failed, so the handles were forced together and locked, and the traction rods applied. Dr. Murray says, "I then employed the instrument as directed by Professor Simpson, pulling only on the traction bar, and was surprised and gratified at the ease with which the head began to advance.. The pains were still frequent enough, and every time I pulled during one the head made distinct progress. At the same time I found the chin coming round from the oblique to the transverse. After about fifteen minutes the face arrived at the floor of the pelvis, the mento-frontal diameter making its exit in the transverse of the outlet. There was no movement corresponding to flexion or extension as it passed out; it delivered exactly as it descended." The child in this case was large, weighing 10 lbs., and all the diameters of the foetal skull were from a half to three-quarters of an inch larger than normal.

6. In transverse presentations, it is often necessary to perform decapitation, and the forceps is often extremely useful in extracting the separated head.

7. Where you have locking of the heads in cases of twins, forceps may be useful in effecting delivery, but authorities differ as to how they should be used. Some say to apply them to the head of the first child. If you have a very roomy pelvis and a small head, and you can push away the second head (as Barnes advises), this may be successful, but I think it is much better to apply the instrument to the head of the second child and try and deliver it past the first. Reiman's rule is that the forceps should be applied without delay to the second head, every other

measure is unsuitable and useless, but you can no more apply a hard and fast rule here than elsewhere.

8. In persistent posterior positions of the occiput, the forceps is of great service, as prolonged pressure of the maternal soft parts causes bruising, hæmatomata, sinuses, etc.

9. Playfair recommends applying the forceps to the head before craniotomy, when the os is sufficiently open to allow of their application, but can't be sufficiently dilated to admit of the passing through of the fœtus, as this often dilates the os when nothing else will.

We now come to the *Maternal* indications.

1. In all weak conditions of the mother, forceps should be applied at once and delivery effected as quickly as possible, but you must use judgment with regard to the rapidity of delivery. Where the patient is suffering from heart disease, put on forceps and deliver as soon as possible, as also in eclampsia occurring during labour.

2. Where inertia uteri has occurred, put on forceps. Here you must deliver very slowly, and the uterus must be followed down by either yourself or an assistant, in order to prevent, as far as possible, post-partum hemorrhage. This condition of inertia uteri is one which ought very rarely to be allowed to occur, for, on the very first signs of its approach, the cervix should be dilated and forceps applied, unless the use of the latter is contra-indicated, as, for example, in cross-birth or very flat pelvis.

3. Where the uterus is displaced either anteriorly, posteriorly or downwards, the accessory muscles either do not act at all or else at a great disadvantage, so you should put on the forceps at once, thus saving the mother much unnecessary pain and fatigue, to say nothing of the more serious sequelæ of a lingering labour.

4. In cases of tumours of the uterus, ovaries or broad ligament, the forceps may be very useful, as, for instance, where a small polypus exists in the pelvic canal, you may often deliver by forceps, whereas it would be impossible to do so otherwise. The same applies when there is an ovarian or parovarian tumour,

either tapping the tumour or not, as you deem advisable, before applying the instrument.

5. You may be called to a case of labour where the vagina is more or less occluded by a hæmatoma. You should try to deliver by forceps immediately or you may have to incise the tumour first. The same holds goods where the vagina or labia are oedematous, this condition showing that the forceps should have been applied earlier, unless there is some organic disease to account for the oedema.

6. Where vaginal walls are prolapsed, you should reduce the prolapse and deliver immediately with forceps.

7. One of the most frequent conditions in which the forceps is useful is a flat pelvis, where the conjugate measures between $3\frac{1}{4}$ and 4 inches. It is here that the forceps is useful as a compressor as well as a tractor. In many cases of flat pelvis where the head cannot be got to engage, if its antero-posterior diameter can be shortened, it will be found comparatively easy to extract the child. In the older books we read that if the head is compressed in the antero-posterior diameter it is bound to expand in a lateral diameter, but Milne Murray proved this idea to be erroneous by a series of experiments. I will not repeat the description of them, but merely state that the antero-posterior diameter of the foetal skull can be lessened by $1\frac{1}{2}$ inches without increasing the transverse diameters. Of course such compression as would be necessary to lessen this diameter by $1\frac{1}{2}$ inches would be decidedly injurious to the foetus, but it shows what can be done if necessary, and I would not hesitate to employ slight antero-posterior compression of the head before resorting to other means of delivery.

8. In cases of accidental hemorrhage, whether apparent or concealed, you should put on forceps and deliver as quickly as possible in hopes that the post-partum contraction and retraction may stop the bleeding.

9. The forceps is also useful in cases of uterine rupture, where the child has not escaped into the abdomen, but can be reached.

10. Prolapse of the vagina during labour, unless very slight, is best treated by applying forceps and extracting the child.

Uses of the Forceps.—Like every other instrument, the forceps is used and misused, but to those who use it with judgment, is a most invaluable assistant. The forceps is not indicated in every case, but you must be very careful in selecting your case, neither applying them where delivery per vias naturales is impossible nor where the labour is progressing satisfactorily.

Opinions have changed of late years about the frequency with which it is safe to apply forceps, due chiefly to the introduction of rigid antisepsis into obstetric practice. Formerly instrumental interference was looked upon with great dread by all practitioners, who delayed interfering as long as possible. What was the result? Ruptured uteri, inertia with its frequent accompaniment post-partum hemorrhage, sinuses in the vagina, fistulæ, etc., were accidents of very frequent occurrence! As a good example of the ill effect of delay, take the case of the Princess Charlotte, who was allowed to labour on for fifty-two hours with symptoms of concealed hemorrhage going on, as a result of which she had two attacks of pulmonary embolism before she died of a clot in the heart. On reading over that case, one cannot but come to the conclusion that if forceps had been applied early, the valuable lives of both mother and child would have been saved. Among many practitioners and teachers of the present day, it is the custom to apply forceps once in every three cases or so, and none that I have spoken or written to upon the subject have seen any cause to repent doing so, whereas many had occasion to regret not having applied them earlier. In his private practice, as well as in his service at the Edinburgh Maternity Hospital, Dr. Halliday Croom never allows a multipara to be more than three hours, or a primipara four hours, in the second stage without having recourse to forceps, unless, of course, they are contra-indicated. However, you can lay down no more hard and fast rule than the following as regards the time to apply forceps: Never allow a woman to show signs of excessive fatigue or undue pressure of the soft parts before applying forceps, if the case is one where their application is possible.

As regards injuries inflicted on either mother or child, I think that they are greatly exaggerated. The principal maternal ones

attributed to the forceps are ruptured cervix, torn vagina and perineum, contusions, hæmatoma, etc., but the experience of most practitioners of the present day, if they use the forceps with care and judgment, is that these injuries are inflicted through not applying the forceps sufficiently early or else by hurried delivery. Of the latter, Milne Murray says: "I am certain that the great mistake most frequently made is the attempt to hurry delivery by the forceps. Put them on as soon as you like, but deliver slowly—one hour, two hours; don't grudge time." The forceps is certainly capable of injuring the child, but the injury may be intentional on the part of the practitioner, as where you have to exert a great deal of pressure to the head antero-posteriorly in cases of flat pelvis. The injuries may undoubtedly be quite unintentional, but are rarely serious. You may meet with more or less bruising of the scalp, extravasation or facial paralysis in head presentations, caused by pressure, but these soon disappear. In breech cases, you may have the genitals torn off by slipping of the forceps, if applied in conjugate of the child's pelvis, but breech cases are not suitable for forceps, if any degree of traction is necessary for delivery of the child, unless the child be dead or the instrument is applied to the after-coming head.

It is put forward by many that brain lesions, causing idiocy, epilepsy, and even insanity, are caused by pressure of the forceps. It is very difficult to come to any conclusion upon the subject, but it has always struck me that, where such injurious compression was exerted by the forceps, the instrument was *abused*, not *used*, or else the same amount of compression must have occurred before the head could be forced through the mother's pelvis, in this case causing maternal complications as well as foetal. It may be put forward that, where the pelvis was so small as to cause such compression, some form of embryulcia should have been attempted. I hold that opinion myself, as the case was not suitable for forceps, and therefore they should not be blamed for causing injury in cases where they should not have been employed. Milne Murray, who has probably devoted as much study to the forceps as any of our British obstetricians, says: "I have never seen any evidence that any mental injury

arises from the use of the forceps. I do not deny that cerebral injury is possible, but I have neither in my own nor other men's practice ever seen a case in which any such relation could be reasonably inferred."

Dr. Haig Ferguson of Edinburgh writes : " I have never seen epilepsy, idiocy or insanity following the use of forceps. Occasionally temporary facial paralysis or temporary bruising of the pelvis were contracted. It is a matter of constant observation that all forceps cases do well. The reasons of this are : (1) the mother does not suffer such prolonged pain, and does not therefore become exhausted ; (2) the forceps are put on before inertia sets in, and consequently involution takes place better and there is less danger of hemorrhage ; (3) there is less chance of the perineum being torn."

Dr. Haultain, in a letter to me upon the subject, writes as follows : " I may say that I have never yet met with one case of any lesion which could be traced to the forceps, although I must have performed the operation fully two hundred times."

I have only been able to obtain the record of one case, in which insanity could be connected in any way with a forceps delivery, and that one was kindly sent me by Dr. Elkins, Assistant Physician to the Edinburgh Royal Asylum. The patient was a man of 32 when admitted to the asylum. His history was traced back to birth, in which forceps were required. The forceps had torn the scalp and cicatrices were still to be seen. When he was admitted, " he had a female contour, a large, ill-shapen head, was non-developed sexually, and beardless."

A CASE OF SUPPURATIVE HEPATITIS FROM OBSTRUCTION IN THE COMMON DUCT BY IMPACTED GALLSTONES.*

By J. BRADFORD McCONNELL, M.D.,
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University of Bishop's College.

Saw the patient first on May 28th, 1891.

Mrs. L., aged 52, married ; six children, youngest 13 years ; above medium height, and of spare build. Health has been good, with the exception of attacks, about twice a year during the last twenty-five years, of severe pain in the region of the stomach and liver, accompanied with vomiting ; they were referred to the liver by her medical attendant, and were relieved by a purgative and hot applications. Present illness began during the first week of December last. Had one severe attack of pain, accompanied with flatulence and vomiting, followed by jaundice, which disappeared in about two weeks. The next attack occurred on the 26th December, and she has had from one to three attacks weekly since then.

Present condition.—Somewhat emaciated and deeply jaundiced ; bowels regular, stools light gray after the attacks of colic, but regain normal colour in a few days ; tongue clean and raw-looking ; tenderness over stomach and liver, greatest over region of gall-bladder ; liver dullness about normal, $3\frac{1}{2}$ inches in the nipple line ; slight œdema about ankles.

May 30.—Nausea and a feeling of weight in the stomach immediately preceded a sudden onset of pain, described as crushing, the spasms succeeding each other at short intervals ; had severe chills. Codeine pills, which she had been taking during the winter, did not give relief ; atropine and morphine hypodermically was required. Jaundice appeared next day, with clayey stools and bile in urine, no albumen, acid ; sp. gr. 1016. Pain continued for about eight days, with occasional chills, and temperature ranged about 102° . Skin dry ; red blush on each cheek.

June 12.—Acute pain has left, but liver very tender on per-

* Read at the meeting of the Canadian Medical Association, September, 1891.

cussion; pulse 104; temperature 100.3° . 9 *p.m.*—Bowels loose; slight epistaxis every morning for the last ten days.

The temperature was normal on the 20th, and tenderness on pressure over stomach and liver gone; jaundice disappearing; suffers from flatulence after taking food. She improved sufficiently to leave her bed, where she had remained since December, and was able to go out driving.

Aug. 18.—Patient states that during past month has been feverish during afternoon and evening, and pain has returned again. Marked tenderness on percussion; liver dullness four inches in nipple line; liver not felt below body of ribs, and no abnormal hardness can be made out. There is marked hebetude; is very drowsy and dull, with confused thought, and was delirious during last night. Complains of a stitch in right side, at upper border of liver, when inspiration is deep. 1 *a.m.*—Pulse 120; temperature 104° ; respirations 32. Several motions of bowels each day lately, coloured. Urine normal in amount, no bile; sp. gr. 1010, acid, no albumen. Two 2-gr. doses of acetanilide caused profuse perspiration, and temperature fell to 97.4° . Her mind became clear until next day, when she had a chill; extremities became cold, followed by a semi-comatose condition, with twitching of right side and lower jaw; temperature 104° ; respirations 30; pulse 140. Acetanilide in small doses (2 grs.) produced sweating and a return again to consciousness. She continued in this alternate condition until her decease on the 29th. There was slight oedema of hands and ankles, and on the 24th convulsions with tonic spasms of limbs lasting one and a half hours. Sp. gr. urine this day 1014; no albumen or bile; after evaporation, sediment consisted mostly of urate of ammonia, no leucine or tyrosine. A sample tested by Dr. Ruttan was found to contain only one-fourth the normal amount of urea.

The treatment had been mainly symptomatic; phosphate of soda given after the first attack had subsided, with a bitter alkaline mixture before meals. Exploratory incision was several times suggested and urged by Dr. Geo. Ross—who had, during the winter, seen her in consultation and confirmed the diagnosis of impacted gall-stone,—but was not agreed to.

*Post-mortem Examination thirty hours after death, assisted by
Dr. Shanks.*

Entire surface anteriorly of a light icteroid hue. Post-mortem lividity well marked over dorsal region. Abdomen moderately distended with gas. Permission obtained to examine abdomen only. All the contents were normal except the liver and bile duct; stomach walls thinner than normal. Liver weighed 4½ lbs. Surface has nutmeg appearance. Gall-bladder contains a mass of small calculi, as does also the cystic and common duct, which are three-quarters of an inch diameter. Opening into duodenum normal. In the diverticulum vateri, immediately behind it, is a large calculus, and a number of others of various sizes distend the ducts throughout. About the centre of the superior surface of the right lobe is a whitish patch, elevated, which fluctuates, and contained thick pus, light yellow in colour and semi-transparent. Several other small abscesses were found near the under surface in the region of the transverse fissure. Microscopical sections of the stomach, spleen, pancreas and kidneys elicited nothing abnormal in these organs. The liver was found to be infiltrated with fat globules; no inter-lobular fibroid growth, but the bile ducts showed increased connective tissue growth, and some of the subdivisions of the portal vein show recent thrombosis; the larger abscess wall was much thickened, and it may have existed for several months.

This case has many points of interest, and presents the following clinical picture. The attacks during the last twenty-five years were apparently of the nature of gastro-duodenal catarrh, extending to the ductus communis choledochus. Acid formation in the morbid secretions led to a deposit of cholesterine about some of the abnormal products in the ducts and the formation of calculi. These may have for a time succeeded in making an entrance to the duodenum until, through some inflammatory thickening at the orifice of the duct, further passage was prevented; then followed severe attacks of biliary colic and futile attempts to pass the concretions, each accompanied by vomiting, chills, and subsequently fever, to which intermittent attacks Charcot has given the designation Intermittent Hepatic Fever

(*fièvre intermittente hépatique*). That it had no malarial taint is proved from the fact that urea was much diminished and quinine was injurious rather than beneficial. It is difficult to ascertain the time of the abscess formation, but this probably occurred some three months previous to her death.

The intermittent fever which existed throughout the last illness resulted either from suppurative angiocholitis extending to the liver—the condition which Charcot believes to be always present in his *fièvre intermittente hépatique*—or probably in an earlier stage, and obtaining more or less throughout the illness, from absorption of the products of the degenerative changes taking place in the retained bile. The absence of jaundice and more normal condition of the stools during the last two months of her illness is explained by the possibility of a certain amount of bile having trickled through the duct over the calculi into the intestines.

That surgical treatment might have saved the patient is highly probable, and the lesson to be learned is that in all such cases where medical treatment fails to give permanent relief, and where the symptoms are obscure, an early exploratory incision should be urged, and the obstruction relieved if possible by surgical means.

COLD WATER AS AN ANTIPYRETIC.*

BY RICHMOND SPENCER, M.D.

When I was asked to deliver an address on Therapeutics at this meeting, I accepted with considerable hesitation, for I felt that one practicing medicine in, comparatively, a remote part of the Dominion, at a long distance from the hospitals, and not having access to medical libraries, was hardly qualified to write a paper, which might be subject to the criticism of such an assembly of medical men, learned in their profession, as we have present here to-day; but a medical friend well up in the profession, and a respected member of this Association, encouraged me by pointing out that the subject of this paper (water) had, at all events, one great merit, viz., it could not be a dry one. I hope my friend's prediction, although intended for a joke, may prove to be a true one.

Water is familiar (or should be) to everyone. It constitutes by far the greater portion of the bulk of the world's surface and of all organized beings, and possesses remedial properties of great value, and yet it is apt to be neglected, as a therapeutic agent, by a large number of medical practitioners; nevertheless, it is entitled to more study, and more frequent employment, as a healer of disease, than has been accorded to it.

While I do not claim to write much that is new, I may, perhaps, be enabled to impart something which has not been thought of, or, at all events, extensively adopted in its applicability as a factor for reducing fever.

Although I have consulted many medical works, journals and year books, I cannot find any which treats of this subject, in precisely the same way, as I shall introduce to your notice. When I consented to write an address upon water, it was then my intention to write upon some of its therapeutic uses, but lack of time has prevented me from discussing more than one of its therapeutic uses, and this, in relation to its use, in the form of cold, for the prevention or reduction of hyperpyrexia. I here speak of the prevention of pyrexia advisedly, for I believe that a considerable amount of fever could be prevented,

* Read before the Canadian Medical Association, September, 1891.

and the metabolic changes in the composition of the blood averted, by the timely use of cold water.

The chief methods in vogue at the present time for the reduction of fever are found in the internal administration of the antipyretics (old and new), and the external use of cold baths, etc. Pepper, in his *System of Medicine*, says that the cold water treatment may be applied in several ways :

- | | |
|------------------------|------------------------|
| 1. The cold bath. | 5. Cold sponging. |
| 2. The graduated bath. | 6. Cold compresses. |
| 3. Cold affusions. | 7. Frictions with ice. |
| 4. The cold pack. | |

These all act in the same manner, and depend for their efficacy upon their power of abstracting heat from the body, and are useful just in proportion as they do this.

Now, the plan of which I will presently speak might be said to act by abstracting heat, not from the body, but from the blood, and simultaneously reducing pyrexia by keeping the blood cooler.

I will not refer now to the internal administration of antithermics, nor will I attempt to discuss the theory as to whether high temperature is the dangerous element in fever, or whether—as some hold—it is only a symptom of profound disturbance of the nervous system, and, in fact, rather salutary than otherwise; suffice it to say that by far the greater proportion of scientific medical investigators are of the opinion that excessively high temperature in disease must at times be reduced at all hazards.

The method I have used in my practice for the reduction of fever is a very simple one, and has the merit of being easy of application. Perhaps its name would not be inappropriate if designated a hand-bath. It consists in immersing or pouring cupfuls of cold water—I frequently use it ice cold—upon the superficial blood-vessels, notably those of the anterior surface of the wrist, where the blood-vessels lie near to the surface, and continuing the application until the temperature is materially reduced and the patient assures you that he feels more comfortable. Possibly the experiment may need to be continued from half an hour to one full hour before any great reduction is appreciable, but at the expiration of this time the temperature will be observed to decline rapidly. Should he com-

plain of the excessive coldness of the water, discontinue its use for a few moments.

In order to carry out this method with as much comfort as possible, the patient should lie on a narrow bed, with his shoulders slightly elevated, so that his hands may drop separately into deep vessels, one of which vessels should be placed upon a low stool, at each side of the bedstead, in order to hold the water to be used.

One can the more easily believe that the application of cold employed directly to the blood-vessels of the wrists (where its rapid transmission through the veins to the heart is infinitely quicker than in the more distant parts of the body) will have a very decided effect upon the temperature of the blood, when we consider that the velocity of the blood-stream in its circuit throughout the entire body—through arteries, capillaries and veins—only occupies from 25 to 40 or 50 seconds.

For some time this line of treatment has been my only external resource in the therapeutics of fever, and usually with excellent results. The temperature soon falls and the skin feels cooler, the nervous symptoms more tranquilized and delirium less, the patient more comfortable, and perhaps falls into a quiet, refreshing sleep; the pulse is diminished in frequency and respirations slower.

Before I draw a comparison as to the relative benefits arising under the use of antithermics, cold water baths, etc., and affusions of cold water upon the wrists, let me ask, What are the etiology and phenomena of fever?

Roberts and most authorities say that fever originates from the presenee of some morbid poison in the blood, either introduced from without or developed within the body.

During its progress the blood is altered in its composition, there being a diminution in the alkalinity of the serum, and after awhile the albumen and red blood corpuscles also become deficient, while the white corpuscles are often increased in number. Nearly all observers find an increase in the number of leucocytes in all acute and chronic febrile affections, and that heat, in proportion to its intensity, directly stimulates the activity of their reproduction.

It would appear from the foregoing that if some agency could be utilized (such as I have proposed) which would pre-

vent the blood becoming heated this metamorphosis might not occur, and although a morbid constituent should flow in its current, its composition (with this one exception) might remain unchanged, and the patient more likely to recover.

While I am not averse to giving the antipyretics in moderation—in fact I usually do—it must be remembered that in repeated doses, and continued from day to day, most of them have a decidedly depressing influence upon the heart, and that they are only permissible during certain periods of the fever.

Water, on the other hand, has neither this depressing influence, nor their irritating action upon the kidneys, but, on the contrary, strengthens the heart and so averts danger from heart-failure. But cold baths in private houses are not always convenient. It is not always practicable, as Pepper points out, to have a bath brought to the bedside of a patient, and ill results may occur from carrying him some distance to a bath-room. But even when the bath is brought directly to the bedside, it involves so much movement, and is the cause of so much excitement, that its good effects are more than neutralized by its bad. Children especially are apt to be terrified and complain bitterly if placed in a cold bath or pack.

The application of cold water to the entire surface of the body at one time may be fraught with some danger. Cold contracts the capillaries and superficial blood-vessels, and, as a consequence, drives the blood to the deeper structures, and may light up congestion of some internal organ. Now the very opposite of this takes place when cold is applied over the vessels of the wrist; the blood, after being conveyed to the heart, is sent out of this organ less heated, and reaches the capillary circulation last, so that any danger arising from internal congestions is almost out of the question.

If it can be shown that cold water, applied in this way, will reduce temperature (and I believe that by its frequent use fever can be controlled), this mode of treatment has great advantages over the other cold water systems. It can be applied without disturbing the patient, nor does it prove irksome like sponging often does. The patient, instead of getting excited, becomes calmer, and perhaps may fall asleep during its performance. It prevents the blood from becoming heated,

and so arrests its metamorphic decomposition, and by its tendency to keep the blood in its normal condition, acts as a factor for good in his restoration to health. It also prevents malnutrition of the brain, and so may preclude delirium; and also that of the body, and the consequent wasting of the muscles.

In closing, let me say that the principle evolved in this short address must have some value, or else it has been singularly fortunate in my hands.

CASE IN PRACTICE—PLEURISY, ERYSIPELAS, FATAL SYNCOPE.

BY ROBT. E. MCKECHNIE, M.D., WELLINGTON, B.C.

F. H., a coal miner, aged 40. Patient's past health had been good, his only previous complaint having been facial lupus, the cicatrices from which covered both cheeks and extended on the left side half way down the neck. He sent for me on account of a sharp pain in the left side. On examination, I found him a well-built man in good nutrition. His heart was not enlarged, and no adventitious sounds were heard over it. No area of dulness was found over the lungs, and the air entered them freely in every part; but along the 7th and 8th ribs, in the left anterior axillary line, a distinct friction sound was heard, synchronous with respiration. The back of the left hand was puffy, and covered with an erysipelatous blush.

During the next three days the pleuritic symptoms remained the same, the chest being strapped and morphia given for the pain. No effusion whatever could be made out. But the erysipelas now covered the forearm as high as the elbow, the parts being swelled to twice their normal size. The temperature was but 101° , and the pulse but 90, regular, full and moderately strong. That night the patient got very restless, a little delirious, and kept getting out of bed. Finally, while standing on the floor he staggered and was caught by a companion, who laid him on the floor. No sign of returning consciousness being seen, I was sent for, and found him dead. The surface of the body was quite pale, the nose pinched, showing a failure of the heart to perform its function.

. The case is a little singular, in that without cardiac disease, with no high temperature to weaken the myocardium, with a very satisfactory pulse, giving no indication of an approaching heart failure, he still should have so suddenly died.

Four days previously the patient was at work ; the erysipelas had only spread above the wrist in the last twenty-four hours ; no evidences of suppuration were present ; so unless death resulted from absorption of toxic materials, such as we would expect every case of erysipelas to furnish, I can find no explanation of the case. I am of the opinion this last was the cause, and if so, the case was unusual.

Retrospect Department.

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

PREPARED BY T. JOHNSON-ALLOWAY, M.D.,

Instructor in Gynæcology, McGill University ; Assistant Surgeon to the Montreal General Hospital ; Gynæcologist to the Montreal Dispensary.

Dr. Henry C. Coe writes upon the important subject of "Adenoma Uteri" (*Amer. Jour. Med. Scien.*, Aug. 1891). Dr. Coe shows the term "Benignant Adenoma" should have no existence indicating a distinct variety of intra-uterine neoplasm as distinguished from "malignant" adenoma. There should be but one variety recognized—the malignant adenoma of Schröder or diffuse papillary adenoma of Winckel. This malignant adenoma is shown to be the incipient stage of adeno-carcinoma so terribly fatal in its career. Their clinical symptoms are identical, but there is an important difference between the two as regards prognosis. It is also shown that there is a distinct and constant transition from adenoma to adeno-carcinoma, and that patients who had the uterus removed during the adenoma period had a much better chance of enjoying after immunity from recurrence than those operated on when the disease had passed that stage. Dr. Coe also wishes to be understood that hyperplastic endometritis is not adenoma at all. In the former we have general hypertrophy of the mucosa and no marked proliferation of pre-existing glands, the process being confined to the mucous-layer.

It is not believed by Ruge and Veit that cancer is developed from this last mentioned condition, and therefore may be carried on this light for the present.

The development, however, of true carcinoma from adenoma is unquestioned. Adenoma is shown to be a distinct pathological condition which, although it is not in its initial stage carcinoma, tends inevitably to pass into it. In the symptomatology there are a few conditions pointed out which tend to show an essential difference between the two diseases.

Three cases are related by Dr. Coe ; two of these are cases of adenoma and one of carcinoma. The cases of adenoma were both past the menopause some years ; ages respectively were 50 and 53. One had slight hemorrhage for a period of five years before seen by Dr. Coe, and had been curetted twice during the previous year, the hemorrhage returning. Her uterus was removed in December 1889, and she has remained free from recurrence to the present time. The specimen gave evidence of malignant adenoma, not carcinoma, yet the growth had begun to infiltrate the muscular layer, and the symptoms, though of long standing, pointed to its malignancy. The second case had been bleeding three years before operation, and the specimen proved to be one of diffuse adenoma of the corpus uteri. Both of these patients were in robust health when admitted into hospital. The third case showed a marked difference in the symptoms in contrast with the other two. She was 63 years of age, and had been bleeding *only* during the past seven months, her health all this time markedly declining without apparent cause. Specimen removed from the uterine walls with curette showed it to be a diffuse cauliflower growth of the endometrium and the diagnosis that of adeno-carcinoma. Uterus removed by vaginal hysterectomy. Ten months later patient had recurrence in the lumbar glands.

In regard to the treatment of these cases of adenoma uteri, he believed that the more often they are attacked with the curette the more malignant they are in character when they return. The proper treatment, therefore, is total extirpation, and this should be done directly the patient comes under obser-

vation. Palliative measures simply favour the more rapid transition to carcinoma, when prognosis regarding cure becomes more doubtful.

Ventro-fixation of Uterus.—An interesting case of the results following this operation is recorded by Gottschalk (*Central. für Gynak.*, No. 8, 1891). The patient had an ovarian tumour removed and at the same time the uterus was drawn up and fixed to the anterior wall of abdomen. The patient became pregnant about one year afterwards and aborted at the third month. The uterus, on examination, was found firmly fixed in anteversion, cervix drawn strongly upwards and backwards, the posterior wall of the uterus was very thin and distended, the anterior thick, and had not evidently undergone distension, due to the uterus being fixed firmly against the anterior abdominal wall. If this condition should take place in the majority of cases operated on it would be a serious cause in the induction of abortion and would be sufficient to condemn the operation entirely. Kelly's method of attaching the uterus forwards by means of the ovarian ligaments is probably the best, as the uterus would then have more play in case of pregnancy. This, however, might react unfavourably in the direction of allowing the uterus to drop back into its old position during convalescence. Another disappointment in regard to ventro-fixation must not be lost sight of,—the liability of the peritoneal adhesions stretching to such an extent as to allow the uterus to drop back into retroversion. This is most liable to occur in cases of lax abdominal wall from rapidly repeating pregnancies.

DR. FLORIAN KRUG (*N. Y. Med. Jour.*, July 3rd, '91) reports six cases in which he operated upon by a method he calls "trans-peritoneal hysterorrhaphy" for the relief of retroposition of the uterus. This method consists in incising the abdominal wall in the centre down to the peritoneum, not through it. The uterus is pressed firmly against the peritoneum by an assistant, while the operator passes a handled Hagedorn needle through the walls, a short distance from the central wound, scrapes the anterior wall of the uterus, and then goes on to emerge on the other side of the wound, is threaded with silkworm gut and

withdrawn. This is repeated in accordance with the number of stitches required. Dr. Krug claims that this method renders the bladder or intestine less liable to be included in the bite of the needle than methods heretofore pursued, and that it takes less time than Alexander's operation. This latter we question very much, apart from it not being as rational a method for supporting the uterus forwards. Alexander's operation should not take more than fifteen minutes for both sides. A few minutes one way or the other should not have any weight in the choice of a certain given surgical procedure. Dr. Krug uses the Trendelenburg posture.

A Remarkable High Temperature Record.—Dr. Frank E. Duckworth, of Kearney, Nebraska, has immortalized himself by recording the blood of a patient who was the subject of an ectopic pregnancy to have acquired the very modest temperature of 228°F., somewhat above boiling point. This is a very pretty story, and although it took Dr. Duckworth nine and one half months, one thousand and two visits, and many specially invented thermometers to obtain a record of this unusual temperature, we think it not at all extraordinary for Kearney or Omaha, as things are always pretty hot out there, and is in fact just the kind of country to make one's blood boil.—(*Archives of Gynecology*, Oct., '91),

Perineal Hernia in Women.—Prof. WINCKEL (*Annales de Gynécologie*, Aug. 1890, *Brit. Med. Jour.*) read before the Berlin Congress a monograph on what he termed perineal vaginolabial hernia. A series of drawings of cases were exhibited with statistics of their nature and treatment. In all cases the hernia issued from the pelvis out of the perineum and distended the labium majus. Winckel distinguishes three varieties, which may be combined in the same subject. In the "anterior" form the sac protrudes between the sphincter vaginae and the erector clitoridis. In the "median" form it bulges between the sphincter vaginae and the deep transversalis perinei. In the "posterior" form the hernia passes before the levator ani and the glutæus maximus. The sac in all these varieties presents special characters of a nature only to be understood by the study of a good

scientific demonstration. The abdominal orifice of the sac lies in front or behind the lateral true ligament of the bladder. According to Prof. Winckel the best treatment for all forms of perineal hernia in women is a radical operation, which must be performed from the perineal aspect, the sac being exposed by an incision through the vulva structures.

Oophorectomy for Menorrhagia, Prolapsed Ovary, and Epileptic Fits.—(CHAS. PINKERTON, M.D., in *Brit. Medical Jour.*)

—In July, 1884, Miss L., aged 35, consulted me with reference to pelvic pain and menorrhagia of some months' duration. The usual drugs were prescribed with no beneficial result, and after some time a vaginal examination was made, and showed the presence of a prolapsed and tender ovary on the left side. About Christmas of that year the patient began to have epileptic fits, which occurred about once a fortnight. The menorrhagia and pelvic pain were also by this time much worse, and the former was on several occasions so profuse that I plugged the vagina. In this state she continued for the next nine months, by which time all the usual remedies had been tried in vain. Her condition on October, 1885, was so bad that I asked Dr. Imlach to see her. He advised an operation for the relief of the menorrhagia and pelvic pain, but refused in any way to promise that the operation would cure the fits. For the relief from pain and menorrhagia the patient and her friends gladly consented to the operation, which was performed by Dr. Imlach on November 7, 1885, both ovaries being removed. We found also a small intra-mural fibroid, though the sound had not shown any enlargement of the uterus. She made an excellent recovery, and was out and about in some weeks. Bromide of potassium was again administered, and though at first the fits continued frequent, yet when belladonna was added to the mixture they gradually diminished in number, and the last one took place in 1888, the medicine, however, as a precaution, being continued until the end of 1889. There has been no return of pelvic pain or menstruation since the operation. The patient has now been quite well for more than two years.

Resection of Tubes and Ovaries.—A. MARTIN (*Med. Press*) at Berlin Gynæcological Congress, from a series of resections of

the tubes (24), and of the ovaries (21), endeavoured to show that the operation was well borne, and that the fear that disease would be set up afresh from the parts left in was not justified. Menstruation and the possibility of conception remained in all the cases operated on. On the proposal of the speaker a committee was appointed to inquire into the ultimate results of operation on the "so-called" adnexa. A discussion followed, in which considerable differences of opinion were expressed as to the advisability of "salpingostomy." Andbak thought it would be very likely to lead to extra-uterine gestation. Müller cauterizes ovarian follicles with the actual cautery. Leopold Landau thought that in the case of gonorrheal tubes the way would be opened for the dissemination of germs. Schatz referred to a case of his own, in which he had designedly left behind a small portion of ovary, and in which conception afterwards took place. Leopold did not look upon cauterization as salpingostomy. He had not been satisfied with leaving the second ovary. Martin, in reply, said he had been careful to distinguish between follicles and neoplasms, and if the contents of the tubes were suspicious he removed them.

Kraurosis Vulvæ.—Dr. ORTHMANN of Stettin (*Zeitschr. f. Geburtsh. u. Gynäkologie*, vol. xix, page 2, 1891), has collected twenty-six cases, and adds five from Dr. Martin's clinic at Berlin. The disease consists mainly of premature atrophy of the vulvar structures. A hyperplastic stage precedes the atrophic processes which are manifested by stenosis of the vestibule, with dryness, sliminess, and a cicatricial condition of the integuments, including the labia minora. No reliable results followed bacteriological researches. The affection often gives rise to intolerable itching and burning. Dr. Martin finds that no measure intended for cure is of any avail short of excision of the affected area of integument and closure of the wounds thus made by sutures. No recurrence was observed in these cases.

Puerperal Endometritis.—Herr BUMM, Würzburg (Report of Gynecological Congress in *Medical Press*), had ascertained from microscopic examination that the grave form of puerperal fever generally proceeded from the endometrium; the first object in local treatment should be, therefore, the endometrium. A

putrid and aseptic form should be distinguished, but the two generally ran together. In a fulminant case of puerperal sepsis, he found that the streptococci had grown through the uterine wall as in erysipelas of the skin, and set up general peritonitis. In two other less acute cases the streptococci had followed the course of the lymphatics. The infection of the peritoneum, however, always took place through the wall of the uterus; the tubes were free from germs in their interior. In the thrombotic cases the fungi spread through the mass of the thrombus. As regarded treatment, benefit was only to be expected at the commencement of the disease from disinfection of the endometrium, in milder cases recovery could take place with or without local treatment. In the severer form local treatment generally came too late, even scraping them did not help. Measures for preventing the spread of the disease were very important, careful removal of placental remains, the best possible contraction of the uterus during childbed (by ergotine), and, finally, by procuring, if possible, closure of the uterine vessels by simple contact, not thrombosis.

Absorbing Power of Uterus and Vagina.—Dr. L. LANDAU (*Berlin. klin. Wochenschr.*) has found that the vaginal mucous membrane has but a feeble absorbing power, while the uterine mucous membrane possesses that power to a very high degree. This fact is of extreme importance in gynæcology, as strongly medicated tampons may fail to act if inserted into the vagina, while if passed into the uterus they may set up grave complications. The vaginal mucous membrane is really skin, and becomes true dry skin in cases of prolapse. The free surface of the cervix has hardly any power of absorption. Dr. Landau demonstrates from cases how different it is with the endometrium. After the introduction of a solid ten per cent. preparation of resorcin into a uterus, severe and long standing uterine colic was set up. The introduction of a one per cent. cocaine compound caused the pain to cease. The cocaine was absorbed, and by paralyzing the sensory nerves it produced anæsthesia.

Examinations: Trendelenburg's Position in Gynæcology.—Dr. A. STROYNOOSKI of Lemberg, Austria (*L'Univers Médical*, No. 8, 1891), has found Trendelenburg's position, the elevated

pelvis, to extraordinarily facilitate gynecological examinations by removal of the intestines and ascitic fluid, when present, from the uterus and its appendages. By means of this position he has succeeded in quite easily palpating, in several cases, tumours which had escaped his touch in examinations made in the usual position. These were an ovarian tumour situated very deeply in the pelvis, an intra-ligamentous cyst; a subserous fibroma anterior to the uterus in a nullipara of an advanced age in whom the abdominal walls were very rigid; and, finally, in a case of ascites, he has been able to palpate the body of the uterus and its appendages where before they were not to be reached. Finally, where the ordinary position does not give definite results, he recommends the employment of the elevated position.

Etiology of Hemato-Salpinx.—WALTHER (*Centralblatt für Gynäkologie*, No. 21, 1891), after careful microscopical studies, entertains no doubt of the existence of true hemato-salpinx independent of tubal gestation. Hemorrhage into the tube may be due to primary salpingitis, to retained menstrual blood resulting from atresia and malformations, to catarrh of the tube (which may be caused by an ectopic gestation on the opposite side), or to acute congestion from suppression of the menses or infectious diseases. On comparing true hemato-salpinx with tubal gestation it is evident that in the case of the former there is more evidence of inflammatory thickening of the serous coat of the tube; moreover, symptoms of localized peritonitis are more marked. The contents of a hemato-salpinx may be absorbed or may remain unchanged; the blood may escape into the uterine cavity or through the distal end of the tube, gradually forming a hæmatocele; or the sac may rupture, with symptoms of internal bleeding and the rapid development of a hæmatocele. Abdominal section is indicated under all circumstances.

VEIT (*Centralblatt für Gynäkologie*, No. 22, 1891) would limit the term hemato-salpinx to cases in which either the tube is gradually distended by the escape of blood into it, or in which hemorrhage takes place into a previously dilated tube. The latter may be due to torsion of a hydro-salpinx (as in a case reported by Sutton), or more rarely to trauma or neoplasms.

An important point in the microscopical diagnosis of true hemato-salpinx is the fact that the *distal opening of the tube is closed*, which is not the case in tubal gestation.

Treatment of Post-Operative Peritonitis.—Dr. JULIEN of Paris (*L'Univers Médical*, No. 8, 1891), in cases of peritonitis after operations, reopens the wound and profusely flushes the abdominal cavity. By this method one may save apparently hopeless cases. On November 20, 1890, he opened with much difficulty, a pelvic abscess, during which operation the pus escaped into the peritoneum. That very evening, that the patient was suffering from subacute peritonitis was apparent, and the next morning the end seemed near. The abdominal wound was partially opened and the peritoneum flushed from diaphragm to bladder with seven quarts of a boric acid solution. The result was, as it were, a resurrection. Four days later the flushing was repeated. Recovery was uneventful.

Drainage after Laparotomy.—M. Saenger of Leipzig contributed a paper on this subject at the Berlin Congress (*Annals of Gynecology*) in which he says: Complete closure of the abdominal cavity, even after "unclean laparotomies," is at present the choice of most German operators. When certain definite indications are present, however, drainage tends to make the course of convalescence after operation less critical. He divides drainage into three forms—first, *simple drainage*, with glass tubes, either straight or curved; second, *intra-abdominal tamponade* by means of absorbent gauze; and third, *combined drainage*, by means of glass tubes filled with some absorbent substance. The author employs usually the last method; exceptionally the second, and never the first. After closure of the abdominal cavity any fluid present is expelled by lateral pressure, and then by means of a fine copper sound bent exactly parallel to the tube an aseptic strip of gauze is introduced down to the very bottom of the drain, which is open. He does not advise the use of wicking for this purpose. Fresh strips of gauze are to be introduced until little or no fluid can be extracted; then the top of the drainage tube is to be covered with crumpled gauze and masses of wood wool, and the whole is to be sealed

hermetically with pieces of adhesive plaster as large as a handkerchief, held smoothly in place by strips passing in various directions. This dressing is not to be changed for twenty-four hours. There is no drawing out of the fluid with syringes, but the absorbent qualities of the dressings are utilized until they are fully saturated.

Drainage, according to Lande, is indicated, first, when local collections of blood, or of infected or decomposed secretions, are present, which it is beyond the power of the peritoneum to make harmless by absorption, inasmuch as this power is diminished from local or general causes; secondly, if a secondary collection of secretions is to be expected from infection of which septic poisoning is to be feared; thirdly, if perforation of (injured) organs with various contents, such as bladder or rectum, is to be feared; fourth, if it is desired to shut off large, profusely secreting, raw cavities from the rest of the abdominal cavity.

Drainage in Abdominal Section.—(ALBAN DORAN, M.D., in Trans. of West London Medico-Chirurgical Society, Nov. 8th, 1890.)—The term "drainage," when used in reference to abdominal section, was employed by the reader to signify a method by which noxious fluids collected in the peritoneal cavity after operation might be removed. It was in no way an arrangement which enabled fluids to escape by reason of physical laws, thus saving trouble to the surgeon; vaginal drainage allowed of this to a great extent, but was seldom satisfactory, and in abdominal sections should never be preferred to drainage through the abdominal wound. A glass drainage tube should be so placed that its extremity lay in Douglas's pouch while its mouth projected above the level of the lower angle of the wound. It was necessary whenever there was free oozing from adhesions, or much capillary hemorrhage, as in complicated ovariectomies or in operations for general peritonitis. When there was an extra-peritoneal pedicle, drainage was less satisfactory. Mr. Doran noted certain precautions necessary to prevent weakening the edges of the wound by the use of the drainage tube, and then detailed precisely his mode of using the tube as practiced in his wards at the Samaritan Hospital. The great principle was the

frequent evacuation of fluid without seriously disturbing the patient. The tube should be emptied every two hours for the first two days.

Morbid Changes in the Fallopian Tubes in Acute Infectious Fevers.—Dr. DMITRY D. POPOFF of St. Petersburg has examined (*Vratch; Brit. Med. Jour.*) twenty fallopian tubes from ten women who died from relapsing fever (7), relapsing fever with croupous pneumonia (1), typhoid fever (1), and croupous pneumonia (1). In all the cases the epithelial lining of the oviducts showed more or less extensive desquamation, the whole lumen of the tube being sometimes blocked by enormous masses of epithelium cells lying in heaps or rows about the base of the folds of the mucous membrane. The outlines of the detached elements were irregular, the protoplasm opaque and granular, the nuclei staining badly or not at all. Amidst the cells there were frequently seen structureless masses of varying size and appearance, which were stained with hemotoxylin fairly uniformly. Sometimes there were also small heaps of red blood corpuscles, and still smaller ones of leucocytes. In the outer or abdominal portion of the tube the desquamation and accumulation of the corpuscles were always much more pronounced than in the inner or uterine end. The tubal capillaries and small veins were invariably engorged with blood, even large-sized veins being occasionally entirely blocked with blood corpuscles. The congestion was especially marked in the mucous, subserous, and longitudinal muscular coats. In two of the ten cases the latter two strata contained scattered accumulations of red blood corpuscles, while in the remaining cases the elements were lying singly, being scattered all over the mucosa, subserous, and, more rarely, the muscular coats. As a rule, the corpuscles were seen in the vicinity of the engorged vessels, but not uncommonly they were also met with in non-vascular areas. In some cases a fairly abundant leucocytic perivascular infiltration was also detected though more frequently the lymphoid elements occurred in much more scanty numbers than red blood corpuscles. In climacteric cases, the congestion, as well as all other morbid alterations, was as intense as in sexually active women. It was noticed, furthermore, that in protracted inflammatory changes was

intense than in those of a shorter duration, and that in the presence of croupous pneumonia they attained a higher degree than in the case of a non-complicated relapsing fever.

Significance of Uterine Displacements.—NIJHOFF (*Centralblatt f. Gynak.*) makes the following summary:—

1. Uterine displacements are often secondary to peri-uterine inflammation or to pathological conditions of the uterus itself.

2. The symptoms accompanying a displacement are nearly always referable to the co-existing pathological deviation.

3. Treatment should be applied to the *lateral* deviation; when this is overcome the actual displacement of the organ may be cured without further treatment, or if it persists, it gives rise to no pain or functional disturbance.

4. In classifying the different varieties of retro-displacements, it is more important to lay stress upon the mobility or fixation of the uterus than upon the degree of displacement.

The Influence of Surgery on Gynæcology.—Dr. Murphy, in the *Provincial Medical Journal*, says: "Surgery came to the aid of gynæcology when such aid was sorely needed; gynæcology accepted that aid to such an extent that it has enabled her to pay her debt by placing surgery in such a position as it never was before, and developing it beyond all expectation." Truer words were never spoken. The gynæcologist of to-day is simply the erudite surgeon especially skilled in operations upon certain parts of the female body. And he gets this skill in technique solely through concentration of thought and constant application of his mechanical instincts in a practical way. When only the medical mind was confined to diseases of women there was a lamentable groping in the dark. The speculum was considered a complete outfit, in the same light as the stethoscope for treatment of diseases of the chest. And these men possessing little manual dexterity sought to retain with timid hand and by trivial means, conditions which require the bold interference of the surgeon's art. But as soon as surgical minds found themselves interested in gynæcological problems, obstacles gradually melted away. There are many whose practise are rather medical than surgical, but these have all in action a certain amount of

surgical dexterity which shows that opportunity would probably have made good surgeons of them.

Extra-uterine Pregnancy ; Retention for Seven Years ; Intestinal Perforation ; Laparotomy ; Recovery.—A most remarkable case is related by Dr. Flothmann of Ems. The patient became pregnant in 1882, and after undergoing considerable suffering and many months of treatment was operated on in 1889. The remains of a fœtus was removed from a sac which was firmly bound down in the pelvis, and which had perforated the rectal wall. This perforation occurred about 25 cm. above the anus, and was caused by one of the sharp edges of a parietal bone. The contents of the cyst were removed and the edges attached to the parietal peritoneum. For a while fæces passed through the sac out through the abdominal wound, but by irrigation and drainage the natural channel was established and defæcation took place normally. The patient finally made a good recovery. —(*Deutsche med. Wochenschrift*, April 23rd, 1891.)

Infection through the Drainage Tube.—Drs. Robb and Ghrikey have been conducting very interesting experiments in regard to this subject at the Johns Hopkins Hospital. No antiseptic drugs were used at the dressings. In one instance they prove that where the case was absolutely free from organisms at the operation and also at the first dressing, the dressings upon the second occasion were found filled with colonies of *staphylococcus pyogenes aureus*, and suppuration followed in the track of the tube. The plan of treating the tube followed by these gentlemen is as follows : A piece of pure rubber sheeting about 18 inches square and well sterilized by a solution of sublimate (1 to 2000) and then kept in a salt solution until required, has a hole made in its centre large enough to allow the drainage tube to pass through. This is laid over the abdomen and the tube drawn through, which has already been properly placed and filled with sterilized gauze. Over this is placed a piece of cotton wool and over all is folded the ends of the rubber sheeting. Over all, then, is placed a large piece of sterilized cotton wool firmly kept in place by a bandage. At each subsequent dressing the tube is cleansed by means of little pieces of absorbent cotton in the claws of the special tube forceps, and refilled with sterilized

gauze as before. The authors prefer the gauze drainage to the suction syringe, a similar preference being now shown by most German surgeons. The authors show that pus in all cases does not contain virulent organisms, otherwise washing out of the abdominal cavity would not avail in many cases. They give a total of sixteen cases examined in which the tube was used. The *staphylococcus pyogenes albus* was found in six cases and *staphylococcus pyogenes aureus* in one case. This demonstrates that infection does take place through the agency of the tube. It is, however, noticeable, in closely examining the table given in the paper, that it was in all cases but one the infection took place on or after the third dressing. This important fact shows that it is wise to remove the tube as early as possible, probably after the first twenty-four to thirty hours. After this period it would be well to depend upon intestinal drainage by purgation. The authors draw attention to the now well known fact that the *staphylococcus pyogenes albus* is not the terrible fellow that *staphylococcus pyogenes aureus* is, and that it is only the latter we should stand in fear of. It is the true agent of sepsis.

The valuable conclusions to be arrived at from a perusal of the paper in question are, briefly : How necessary it is to carry out the technique of our operations and dressings in absolute purity so far as it is within human endeavour ; that frequent dressings are bad in the direct proportion to their number ; that the suction syringe is a source of great danger from the necessity of its frequent application, if for no other reason ; and that the gauze capillary drainage and the employment of the tube forceps as a method is superior to all. Sanger of Leipzig says " hollow-glass drainage never, gauze drainage seldom, the combined glass tube and gauze drainage *always*." When the writer has had occasion of late to use drainage he has *always* used the Keith tube filled with sterilized gauze drainage saturated with boric acid and iodoform (seven parts of the former to one of the latter). This drain is changed only once in twenty-four hours, and the tube could then be removed if necessary without any chance of infecting the peritoneum.

Dr. Robert Bell (*Brit. Gyn. Jour.*), in a paper on *Uterine Adnæxa*, says : " So much diversity of opinion at present exists

regarding the treatment of diseased ovaries and tubes, that one is almost forced to conclude that prejudice in many instances has usurped the domain of calm judgment, and sentimentality that of common sense. On the other hand, however, we find men who are much too ready to ignore and even scoff at the scruples of those opposed to them in practice, and who have no hesitation in bringing surgery to bear when less drastic measures might possibly, and probably have, a more beneficial effect upon the case. No one could possibly have been more averse to surgical interference in these diseases than I at one time was, and for years I have laboured to throw discredit upon the operation. I was even so blinded by prejudice that I felt inclined to denounce every man who attempted the operation, and looked upon those poor sufferers on whom he operated as victims to his surgical rapacity. For years I held these extreme views, and not, I trust, without some benefit accruing to gynæcological science, yet it must be confessed, in many instances, a vast amount of suffering and ill-health might have been spared had operative measures been resorted to at an earlier stage."

The above views and confession of a man—"blinded by prejudice"—regarding the operative treatment for relief of inflammatory disease of the uterine appendages, should be carefully thought over by every conscientious physician in general practice. Many of these cases, as Polk has shown, need not lose their uterine appendages, but merely have the adhesions broken up, small cysts incised, and the displaced organs replaced and held there by suture in such a way that they will be freed from pressure and constriction. There is undoubtedly some reason for improvement in the technique of this operation, and our future endeavours will be, I feel confident, directed in this way.

Results of Extirpation of the Uterine Adnexa.—The *Gazette des Hôpitaux* gives M. Routier's conclusions on this subject, presented at the recent French Surgical Congress, as follows: The more advanced the lesions of the adnexa the more does their ablation give an excellent therapeutic result. The best result is obtained by cure of the pyo-salpinx. In the milder cases, also, ablation is an excellent operation; but in certain young

women there persist hot flashes and sweating crises, in evident *rappor*t with the sudden suppression of the menses. Unilateral extirpation in salpingo-oöphoritis is a mediocre operation.

Early Curetting in Puerperal Infection.—M. CHARRIER (*Archives Générales de Médecine*, Aug. 1891) speaks of early curetting in puerperal infection. Most often the operation of early curetting is one of urgency, and there is little time for preparing the patient. M. Vassi looks upon repeated shivering, a temperature of over 39°C ., the general state of the patient, pulse, etc., as affording pressing indications. After the curetting, which should be done thoroughly, the cavity is washed out and filled with iodoform gauze as a drain. The amount of foetid *debris* brought away in some cases is extraordinary. The author says that curetting is indicated in cases of slight infection, when abdominal tenderness, less marked-fever, and foetid lochial discharges are present. Antiseptic injections improve matters for a short time, but are not finally remedial. If any adherent portions remain in the cavity washes will not remove them, and if curetting be done by one specially skilled in such manipulations it is impossible to do injury. Puerperal accidents, rare now-a-days, will no longer be feared if curetting the uterus be properly carried out. When failure to relieve ensues, it is because the operation was done too late, when probably the general peritoneal lymphatic system and tubes had become affected. The author gives five cases in illustration.

Early Diagnosis of Carcinoma Uteri.—Dr. WINTER (*Berl. Clin. Wochens.*, August 17th, 1891) draws attention to the great importance of making an early diagnosis in cases of carcinoma uteri, in view of the success now attending the operation of total extirpation. During the last few years there have been 64 such operations performed in Berlin alone without a single death. The primary results are therefore very satisfactory. As regards the secondary results, it is thought that about 25 per cent. remain alive after five years have elapsed. In view of these facts it is lamentable that only 28 per cent.—that is, about one quarter—of the cases of uterine cancer are operated on, and if of this number only a quarter survive for five years, not more

than about 7 per cent. of patients are permanently cured. The chief reason for this is that women are not advised to apply to the surgeon early enough. The physician in attendance often fails to examine, and therefore does not make a diagnosis. In other cases the patient is unwilling to be examined, through a dread of something serious being discovered. In a few cases the symptoms are so slow, insidious, and ill-defined, that no attention is paid until the progress of the disease has been well established. If medical men would only bear in mind the great necessity for making themselves absolutely certain in regard to the condition of suspected cases, many valuable lives might be saved.

Cæsarian Section and Porro's Operation.—Dr. Harris has published in the October number of the *American Journal of Medical Sciences* a memoir on "The possible results of Cæsarian delivery as shown by the results obtained in Leipzig under seven operations from 1880 to 1891."

Twenty-two operations were done in America between 1828 and 1880. In these cases the small number of sutures applied is noticeable; twelve mothers and thirteen children were lost. This mortality is attributed to the fear on the part of the operators of applying a sufficient number of sutures, and in this way poisonous fluids were allowed to escape into the peritoneal cavity. In the history of the improved operation Zweifel stands foremost, having lost but one mother and one child in eighteen cases. He has completed an operation in twenty-four minutes. He uses many sutures, and prefers chromic acid catgut. The total number of operations in Leipzig is thirty-five, with two maternal deaths and two children lost. Dresden furnishes more operations, but with a higher mortality. Leopold has had more Cæsarian deliveries than any living man, but he had lost three women when he had reached Zweifel's number of cases.

Dr. Harris states that the Porro record for all countries from 1885-89 amounts to 157 cases with 48 deaths and 25 children lost. The lowest mortality ever reached was 15½ p.c. (1888). In 1889 it rose to 32¼ p.c. Milan gives the best Porro record in Europe—29 per cent. as against 5 per cent. in Leipzig under

the Sanger-Cæsarian section. Vienna has had more Porro operations than Milan, but 15 women out of the first 32 were lost. From these facts the conclusion is drawn that the general average mortality of the Porro-Cæsarian section is about 28 per cent. Whereas it is thought that the average mortality of the Sanger-Cæsarian section ought to be about 6 per cent. Sanger and many other European operators are opposed to removing the ovaries or tying the tubes, as it is not recognized that rachitic mothers will necessarily bear puny children. If the operation can be reduced to 6 per cent., then the question of sexual mutilation must be very seriously considered.

Treatment of Severe Prolapsis Uteri.—Dr. RICHELOT (*Union Med.*, Oct. 3rd, 1891) advocates hysterectomy (vaginal) in extreme cases of prolapsis, and adds that from his experiences it is not at all a difficult operation. That it will be necessary afterwards to do a colpo-perineorrhaphy or a Le Fort's operation to obliterate the vagina.

Reviews and Notices of Books.

Foster's Physiology. Latest American edition, published with illustrations by Lea Brothers, Philadelphia, Oct. 1891.

The newest edition of this work, long and favourably known in America as well as Britain, has just been issued from the American press in a single large volume at a moderate price. Dr. Foster has at last yielded to the demand for more or less histological illustration and reference rather, probably, from pressure of circumstances than from any alteration in his own convictions. All the changes in the book seem to be improvements, while it remains, as before, one of the best digested works on physiology ever written.

For ourselves we are glad to see recognized in this work what has been so long neglected—the differences for species and individuals, to the knowledge of which differences has been largely due to work done in America. Professor Foster rarely mentions the names of authors of method or researches, and where he has done they have been those of the Cambridge school. This is a bit of narrowness we scarcely expected.

It is gratifying to note that in this work there are signs of a reaction against the physico-chemical physiology which has been in vogue of late years, and for which Prof. Foster was as much responsible as any one. As we have for years taught in opposition to such views, it is no small pleasure to find a change in so important a work as the present one. This book will still be a large and difficult one for many students; but teachers should try and bring their classes up to the better sort of physiology.

The work deserves success.

W.M.

Differences in the Nervous Organization of Man and Woman. Physiological and Pathological.
By HARRY CAMPBELL, M.D., B.S. (London), Member of the Royal College of Physicians; Senior Assistant Physician and Pathologist to the North-West London Hospital. London: H. K. Lewis, 136 Gower street. 1891.

Dr. Campbell is now so well known as a clear, forcible and

philosophical writer on medical subjects that any production from his pen is gladly welcomed by the profession. The work under consideration is in all respects fully equal to the previous volumes which we have had the pleasure of carefully reading and reviewing. No practitioner can read the present work without being in a better position to intelligently treat the various forms of diseases it is his lot to meet with. We have much pleasure, therefore, in recommending it to the favourable notice of our readers, and can assure them they will find it both pleasant, entertaining and profitable reading.

A Text-Book of Practical Therapeutics, with especial reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Second edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers and Co. 1891.

In the short space of six months the first edition of this book was exhausted, showing that it was written in a manner that commended itself to both practitioners and students. The present edition contains a description of a number of new agents, together with an account of the method of carrying out the rest-cure. A description is also given of the means of treating tabes and allied diseases by suspension.

A Manual of Hypodermatic Medication: The Treatment of Diseases by the Hypodermatic or Subcutaneous Method. By ROBERTS BARTHOLOW, A.M., M.D., LL.D., Emeritus Professor of Materia Medica, General Therapeutics and Hygiene in the Jefferson Medical College of Philadelphia. Fifth edition, revised and enlarged. Philadelphia, J. B. Lippincott Company; London, 10 Henrietta street, Covent Garden. 1891.

It is a great pleasure to know that Dr. Bartholow's health has been restored, thus enabling him to give to the profession a late and greatly improved edition of his excellent manual on hypo-



dermatic medication. The fifth edition contains much new matter and the work is now the most complete on its subject in the English language. The advantages and disadvantages of the hypodermatic method of introducing drugs in the blood are fully and clearly explained in the case of every drug used in this way.

Annual of the Universal Medical Sciences. A Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by CHAS. E. SAJOUS, M.D., and seventy Associate Editors, assisted by over two hundred Corresponding Editors, Collaborators, and Correspondents. Illustrated with chromo-lithographs, engravings and maps Philadelphia and London: F. A. Davis. 1891.

This, the fourth series of this valuable annual, is in every respect up to the previous issues. The subject matter occupies the whole ground of medicine, and is dealt with in a very complete manner. These volumes should be on the writing table of every practitioner who desires to keep abreast of the ever advancing tide of medical progress. In the English language there is certainly no work dealing with the yearly progress of the medical sciences that can compare with the one under consideration in completeness and thoroughness. A great improvement is to be noted in the present issue in the matter of having a reference list at the end of each volume.

Practical Pathology and Morbid Histology. By HENEAGE GIBBES, M.D., Professor of Pathology in the University of Michigan; formerly Lecturer on Normal and Morbid Histology in the Medical School of the Westminster Hospital, London; formerly Curator of the Anatomical Museum, King's College, London. With sixty photographic illustrations. Philadelphia: Lea Bros. & Co. 1891.

The first seven chapters of this work deals with the most approved methods of preparing tissues for microscopic examination. In the second part we have a very clear account of the more important details connected with practical bacteriology. The third part, which occupies more than half the work, deals

Treatment. A Manual for Students and Practitioners. By JOHN SHAW, M.D., Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School; former Medical Superintendent Kings County Insane Asylum. Forty-eight original illustrations. Philadelphia: W. B. Saunders, 913 Walnut Street, 1891.

Society Proceedings.

MEDICO-SURGICAL SOCIETY OF MONTREAL.

Stated Meeting, November 6th, 1891.

H. BULLER, M.D., PRESIDENT, IS THE CHAIR.

New Members.—Drs. John McBain, J. E. Molson, R. L. Herwick and J. A. McPhail were elected members.

Case of Intestinal Typhoid Fever.—DR. LAFLEUR exhibited this specimen. The patient had been in the hospital for several weeks under the care of Dr. Molson. He had died with collapse and other symptoms of perforation. At the autopsy there was no external discoloration and loss of liver dulness. On opening the abdomen there was general purulent peritonitis, the cavity containing a large quantity of lymph and turbid fluid. A perforation was found in the cæcum just below the ileo-cæc valve. The case was peculiar in that the ulcerative process was not intense in the large bowel as far down as the rectum. The colon showed easy induration of the Peyer's patches. At the ileum were found several two or three in the ileum.

Specimen of Liver.—DR. LAFLEUR exhibited the specimen and gave the following account of the condition found at the autopsy. The body was intensely jaundiced; there was moderate abdominal distension and emaciation. The liver projected far beyond the normal limits in all directions, the surface was roughened and covered with numerous adhesions, many being organized and traversed by large veins, which were connected with those of the abdominal wall and diaphragm. The organ was rough, and firm, enlarged, of a pale reddish-brown colour, and very firm. The cut surface showed here and there prominent dilated yellow streaks which were found to correspond to unobstructed liver vessels. The rest of the organ was of a grayish

Vierordt, M.D., Professor of Medicine at the University of Heidelberg. Authorised translation from the second improved and enlarged German edition, with additions by Francis H. Stuart, A.M., M.D., Member of the Medical Society of the County of King's, New York : Fellow of the New York Academy of Medicine. With 178 illustrations, many of which are in colours. Philadelphia, W. B. Saunders, 913 Walnut street. 1891.

Twenty-Second Annual Report of the State Board of Health of Massachusetts. Boston, Wright & Potter Printing Co., State Printers, 18 Post Office Square. 1891.

Essentials of Bacteriology, being a Concise and Systematic Introduction to the Study of Micro-organisms. For the use of Students and Practitioners. By M. V. Ball, M.D., late Resident Physician German Hospital, Philadelphia ; Assistant in Microscopy, Niagara University, Buffalo. With 77 illustrations, some in colours. Philadelphia, W. B. Saunders, 913 Walnut street. 1891.

A Manual of Venereal Diseases, being an Epitome of the most Approved Treatment. By Everett M. Culver, A.M., M.D., Pathologist and Assistant Surgeon, Manhattan Hospital of New York City, etc., and James R. Hayden, M.D., Chief of Clinic Venereal Department of Vanderbilt Clinic, College of Physicians and Surgeons, New York. With illustrations. Philadelphia, Lea Brothers & Co. 1891.

History of Circumcision from the Earliest Times to the Present. Moral and Physical Reasons for its Performance. By P. C. Remondine, M.D. Philadelphia and London, F. A. Davis. 1891.

Essentials of Physiology, arranged in the form of Questions and Answers. Prepared especially for Students of Medicine. By H. A. Hare, B.Sc., M.D., Professor of Materia Medica and Therapeutics in the Jefferson Medical College of Philadelphia, etc. Third edition, thoroughly revised and enlarged, by the addition of a series of handsome plate illustrations taken from the celebrated "Icones Nervorum Copitis" of Arnold. Philadelphia, W. B. Saunders. 1891.

Manual of Physical Diagnosis, for the use of Students and Physicians, by James Tyson, M.D., Professor of Clinical Medicine in the University of Pennsylvania and Physician to the University Hospital ; Fellow of the College of Physicians of Philadelphia, Member of the Association of American Physicians, etc. Philadelphia. P. Blakiston, Son & Co., 1012 Walnut street. 1891.

Ptomaines, Leucomaines and Bacterial Proteids, or the Chemical Factors in the Causation of Disease. By Victor C. Vaughan, Ph.D., M.D., Professor of Hygiene and Physiological Chemistry in the University of Michigan, and Frederick G. Novy, Sc.D., M.D., Assistant Professor of Hygiene and Physiological Chemistry in the University of Michigan. Second edition, revised and enlarged. Philadelphia, Lea Brothers & Co. 1891.

Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book specially adapted for Students of Pharmacy and Medicine. By W. Simon, Ph.D., M.D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons ; Professor of Chemistry and Analytical Chemistry in the Maryland College of Pharmacy. Baltimore. Third edition, thoroughly revised. With forty-four illustrations and seven coloured plates, representing fifty-six chemical reactions. Philadelphia, Lea Brothers & Co. 1891.

Essentials of Nervous Diseases and Insanity : Their Symptoms and

Treatment. A Manual for Students and Practitioners. By John C. Shaw, M.D., Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School; formerly Medical Superintendent King's County Insane Asylum. Forty-eight original illustrations. Philadelphia, W. B. Saunders, 913 Walnut street. 1891.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, November 6th, 1891.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

New Members.—Drs. John McBain, J. E. Molson, R. H. Berwick and J. A. McPhail were elected members.

Late Perforation in Typhoid Fever.—DR. LAFLEUR exhibited this specimen. The patient had been in the hospital for several weeks under the care of Dr. Molson. He had died with collapse, pain and other symptoms of perforation. At the autopsy there was found abdominal distension and loss of liver dulness. On opening the abdomen there was general purulent peritonitis, the cavity containing a large quantity of lymph and turbid fluid. A perforation was found in the cæcum just below the ileo-cæcal valve. The case was peculiar, in that the ulcerative process was most intense in the large bowel as far down as the rectum. The ileum showed early infiltration of the Peyer's patches. All the ulcers were cleared except two or three in the ileum.

Hypertrophic Cirrhosis of the Liver.—DR. LAFLEUR exhibited the specimen and gave the following account of the conditions found at the autopsy. The body was intensely jaundiced; there was moderate abdominal distension and emaciation. The liver projected far beyond the normal limits in all directions, the surface was roughened and covered with numerous adhesions, many being organized and traversed by large veins, which were connected with those of the abdominal wall and diaphragm. The organ was rough, uniformly enlarged, of a pale reddish-brown colour, and very firm. The cut section showed here and there prominent bright yellow spots, which were found to correspond to unaltered liver tissue. The rest of the organ was of a grayish-

yellow colour and much firmer than the light yellow patches. On microscopic examination there was seen a very general development of fibrous tissue which was not restricted to the periphery of the lobules, but penetrated between the individual liver cells to the centre of the lobule. There was marked atrophy and degeneration of the liver cells. In many places there were collections of small round cells among the strands of fully formed fibrous tissue (probably tuberculous tissue). It was extremely difficult to make out the lobular arrangement in many sections. No increase in the number of bile ducts could be made out. The case illustrates that variety of cirrhosis called "intercellular" as distinguished from the more common "lobular" cirrhosis. The jaundice was not due to the obstruction of the common duct or any of its larger divisions, as the bile could be easily pressed out. The immediate cause of death was an acute miliary tuberculosis, the lungs, the retro-peritoneal glands, which were very large, and spleen being stuffed with minute miliary tubercles. The kidneys also contained them in lesser quantities. There was no meningeal tuberculosis. No old tuberculous focus was discovered to account for the acute infection.

In connection with this case Dr. Lafleur exhibited a specimen of the atrophic form of cirrhosis. There had been no history of cirrhosis, but one of obscure lung disease. There was found a chronic bilateral pulmonary tuberculosis upon which had been grafted an acute attack. There was no ascites. The surface of the liver was roughened with small elevations and corresponding depressions. It was softer than the other specimen, and friable. The internal appearance was the same as that on the surface, the elevations corresponding to the lobules and the depressions to the portal spaces. It is an example of atrophic changes involving the portal circulation, induced probably by a calculous obstruction of the duct, for the common duct and all its branches are enormously dilated. A calculus did probably pass down at some time, as a small one is seen in the gall-bladder, but none in the common duct. The terminal feature in this case was also pulmonary tuberculosis. In the other organs there were no special changes.

DR. JAMES STEWART said that the man from whom the first specimen was taken was 40 years of age, and had passed the greater part of the last two years in the hospital. The case was of special interest, being the one on which the late Dr. R. L. MacDonnell had written his article on "Cirrhosis of the Liver" in the first volume of "International Clinics." The marked feature of the case was the enlargement of the liver and spleen ; it was impossible to distinguish between the two, as the splenic dulness merged into the hepatic. There was constant persistent jaundice and absence of effusion into the abdomen. He had had a severe attack of erysipelas and of peripheral neuritis. Two weeks before death he had passed a large quantity of chylous urine, the source of which could not be traced at the autopsy.

Chronic Myocarditis.—DR. LAFLEUR exhibited the specimen and gave the following notes on the autopsy. There was general arterial sclerosis of the larger and medium sized arteries, and was seen in all the organs. The chief changes were seen in the heart, at the base ; there was hypertrophy and dilatation of both ventricles. At the apex of the left ventricle there was great thinning of the wall, and in which two well-marked zones could be distinguished—an outer one, like normal muscle, and an inner one, from which all traces of muscular structure had disappeared. In this situation there was distinct bulging of the apex of the ventricle and a large clot adhered to the endocardium. Microscopically the internal zone is necrotic, all the muscular structure being replaced by a granular amorphous substance. As to the cause, there was no thrombus or embolus of the coronary arteries discovered, but there was probably clogging of some of the minute vessels. Higher up in the ventricle there is a fibroid change, appearing as pearly glistening patches, offering great resistance to the knife and alternating with areas of normal muscle. The valves were competent and showed slight fibroid changes. Thus there was in this case a commencing cardiac aneurism, and had the man lived he would have had a distinct sacculation of the left ventricle.

DR. JAS. STEWART related the clinical history. The patient had been only two days in the hospital, and the cardiac condition

had not been diagnosed. The main clinical features were the constant dyspnoea and the marked difference in the respiratory sounds on the two sides of the chest, being weak over the left side and exaggerated over the right. It was thought that there was a tumour pressing on the left bronchus. Shortly before death there was a systolic murmur heard at the apex as well as severe pain in the region of the gall-duct. Commenting on the case, Dr. Stewart said that some cases of myocarditis are easily diagnosed, though very often the condition is only discovered at the autopsy. Patients often die with as great suddenness as from hemorrhage into the medulla or from aortic disease.

Fibroid of the Labium.—DR. LOCKHART exhibited this specimen which he had removed last April, and which had existed since June 1890. On examination, the growth was found attached to the left labium minor by a pedicle, one and a half inches long and about two millimetres thick. It was removed by Paquelin's cautery.

DR. LAPHORN SMITH then read a paper on a

CASE OF PUERPERAL PERITONITIS TREATED BY ABDOMINAL HYSTERECTOMY, WITH REPORTS OF TWO OTHER CASES
TREATED BY OTHER METHODS.

The following very brief and imperfect reports of these cases of puerperal peritonitis, although of very little interest in themselves, may serve as a basis for some practical deductions, and may also, I hope, lead to some healthy discussions and criticisms.

Mrs. C., aged 22, was attended by me six years ago for typhoid fever, which came on during the last month of her first pregnancy. The fever ran a typical course and at the beginning of the third week labour came on, which, owing to her weak condition was tedious, and required the aid of the forceps. There was no change in the temperature however, it continuing at 103° until the end of the third week when it began to fall, and in two or three days reached normal. She made a good recovery. Two years later, I was called to attend her in her second confinement, and found her in a house on Brunswick street which had enjoyed rather a bad reputation for scarlet fever and diphtheria. I was very careful to have everything about her clean, but did not use any injections.

There was no laceration of the cervix or perineum, and the placenta came away easily and entire. Her temperature was normal the next morning, and also the following one, but towards the afternoon of the third day I was hurriedly sent for and found her in a very severe rigor. The thermometer registered 105° . I immediately syringed the vagina with plain hot water, and then ran home for a uterine double current catheter which I had shortly before purchased in Berlin, known as the Fritz-Bozeman. I also brought some Liquor Potassæ Permanganatis. I then prepared a quart of hot water with one ounce of the Permanganate solution, and allowed it to flow from a high fountain into the uterus. The first few ounces which came away were dirty, and then there was washed out a pale, round fungous looking mass about three inches wide and half an inch thick, exactly like the colony of fungi, commonly called the vinegar plant. After that the water came away clear magenta. At ten o'clock that night the temperature had fallen to 101° , and next morning it had returned to normal. As a precautionary measure I repeated these injections for several days, but there was no return of fever, no sore throat, and no exhaustion. I should mention I had her ears ringing from cinchonism within five hours of the chill. The injections were repeated night and morning for three days. She made an uneventful recovery. I mention this case because it was the worst of seven similar cases occurring during fourteen years, and among over five hundred confinements, all of which were treated in the same simple way and ended in recovery. The decomposing mass was probably a blood clot, as she had had many afterpains the first day which required two or three 15-grain Dover's powders to relieve. I suppose every practitioner has a case like this occasionally, and saves the patient's life by the same treatment, although such cases, if not treated, would probably go on to puerperal peritonitis and die. But there are cases in which, in spite of the same treatment, the temperature does not go down, the chills are repeated, the belly becomes tympanitic, and in a word, the case proceeds to the uterine sepsis, and to a form of the great peritoneal lymphatic general peritonitis, Orsini's, and is the following case:

Mrs. J., at 34 inches of two children, was attended by me

three years ago for a miscarriage, at the third month, from which she made a good recovery without any rise of temperature. About two years later I was called to see her in her confinement. She was nursed by an elderly maiden sister who was opposed to doctors in general, and to me in particular. She spent four weary hours chiding me for the length of the labour, until at midnight, the os being open, I carefully washed my hands and instruments and proceeded to apply the forceps. This also met with a good deal of obstruction, and the patient herself objected to take any anæsthetic. I tried to apply the forceps without any anæsthetic, but the patient set up such an outcry, in which all the family joined, that I insisted upon having some one to help me. Dr. Reddy kindly responded to my call and administered the A. C. E. mixture, while I easily applied the forceps and delivered. The placenta was expelled by Crede's method. I gave her a drachm of ext. of ergot to prevent hemorrhage, and after cleaning her and the bed up I left her comfortable. Next morning (Monday), her temperature was normal and she felt remarkably well. I gave strict orders about changing soiled bedding and to have the bowels moved on the third day. On Tuesday, Wednesday and Thursday mornings the temperature was still normal, but on Friday it had risen half a degree. As there was a slight odor to the discharge, I ordered the patient to be syringed night and morning with plain hot water, and the clothes and bedding to be changed again on Saturday morning. To my great annoyance, the patient and nurse informed me that they did not think there was any need of syringing, as they had never done so before and the patient felt well. The thermometer, however, registered a rise of one degree. I gave them all a lecture on the importance of obeying the doctor's orders, and the husband promised to get the syringe. The nurse did not try to use it until Sunday at noon. On Tuesday afternoon the patient was feeling very well, but the temperature was still a degree high. On Monday, the eighth day, I was unable to go to see her in the morning, but, about noon, on my return home, I received an urgent call to go there, and on my arrival, found that she had had a very severe and prolonged chill which was still going on. Failing to find me at once, they had called on Dr. Devlin who kindly paid his one

visit and did what he could to stop the chill. I found the temperature nearly 105° , ordered two grains of quinine every two hours until cinchonism was attained. I at once took the douching in hand myself, and then it appeared the nurse had been afraid, when syringing the day before, to put the nozzle inside the vulva and had merely squirted it on the outside. As there was by this time a decidedly bad odor, I employed sublimate solution 1-2000 which was greatly in vogue at that time. Although I followed it by two or three syringes full of pure water the first injection was followed by complete anuria, and an obstinate diarrhoea set in which lasted two days. I after that reduced the strength of the injections to 1-4000 and followed them with a more copious flow of plain water. All the injections were intra uterine and repeated twice a day. On Monday night Dr. Reddy met me in consultation and confirmed the diagnosis of peritonitis, and suggested that I should open the abdomen, but I was so disheartened by the constant obstructions of the nurse, and the apathy of the others, that I had not the courage to do so. On Tuesday night they requested me to call Dr. A. A. Brown in consultation, and he suggested that I should curette and wash out with hot water, and this he kindly helped me to do under a little anæsthetic. Nothing came away however, with the curette, although I scraped hard enough to start a little bright oozing. We thoroughly washed out and put an iodoform suppository into the uterus. Before putting the patient back in bed I made a clean sweep of the bedding, and to my mortification discovered under the clean sheets a piece of bad smelling canvas, which had been placed on the mattress some time before the confinement. This was removed and fresh clothing was placed on the patient and bed. There was not only no improvement from this, but the patient was much worse the next day, the temperature and pulse rising to 105° and 150 respectively. As the pulse was very weak, I gave her ten minims of digitalis every four hours with very slight benefit. In spite of everything I could do she gradually sank, and died on the 19th day after her confinement. No post mortem was allowed. This was my second death in nearly five hundred cases, the first one being due to peritonitis occurring in the 226th one. I might say, that the temperature generally oscillated between 101 and 103° , except

at the beginning and after the curetting. The pulse was always very rapid and wiry. There was little or no pain at any time. The distension was sometimes very great, but seemed to be easily relieved with turpentine stupes, salines, and sometimes turpentine enemas. Quinine, digitalis and brandy were given regularly, and for nourishment she took large quantities of milk and beef tea. No calomel was given. It is very mortifying to have such cases, and still more so to report them, but I believe, if this be truthfully done, valuable lessons may be learned, which, if applied in similar cases, may save many lives. I felt very much inclined at the time to retire from the case when I experienced such difficulty in having my orders carried out, and indeed one would be quite justified in doing so, and this would probably be the wisest course to follow, although on this point, I cannot even now come to a decision. Lawson Tait told us here some years ago, that he never undertakes a case without first being sure that his orders will be obeyed implicitly. On the other hand very few patients do all the doctors tell them.

The second point is, that in any case where the carrying out of your orders is of vital importance, it is better not to trust any one, but to execute them yourself. This case has impressed me so much that I now change the bedding and linen myself at my first visit after the confinement, or at least see it done while I am there.

The custom of delivering women on an operating table as is done at the Preston Retreat, Philadelphia, or on a sofa, as is the custom among the French Canadians here, and only placing the women in bed after all the flow of water and blood is over is a good one.

One of our most successful physicians has been criticised for taking upon himself the duties of the nurse, and even preparing the lying-in bed with a rubber sheet, etc. But he has probably had some severe lessons such as in this case, which have taught him to trust no one where aseptic midwifery is concerned. Another point worth noticing is the tendency of both nurses and patients to keep the lying-in room darkened and unventilated. It was so in this case, and in nearly every case I have ever had the patient can hardly be seen. As if the shutters being closed and the blinds down,

ously expelled by that time, to give her an anæsthetic and detach it with my hand. I left an ounce of ergot with directions to give her a teaspoonful every four hours, for the double purpose of preventing hemorrhage and expelling the contents of the uterus. I gave her a hot injection of plain water, cleaned her up, removing all soiled linen from the bed. I told the midwife to let her sleep so as to gain a little strength for what might be necessary when I returned. As soon as I left the house the midwife began working at the placenta, and by 3 a.m. had removed a considerable portion of it, which she showed me on my arrival at 9 a.m. I did not think that it was all there, and therefore, introduced my hand into the vagina, and removed several handfulls more from the uterus, which was still tightly closed. The patient was too weak to stand an anæsthetic, and the introduction of my hand caused her intense pain, so that I could not get my fingers to the fundus. I then gave her an intra-uterine douche of permanganate solution until it returned clear, and these injections were repeated twice a day. She rallied very well for the next thirty-six hours, but about forty hours after delivery she took a chill, and the temperature went up to 104°. Forty-eight hours after delivery I was suddenly called to see her and found her with her abdomen distended, knees drawn up, face pale and anxious, pulse thready and 140, and she was screaming with pain all over the abdomen. I at once gave her a good dose of Rochelle salts and applied turpentine stupes to the abdomen, and within an hour she was quite free from pain and fell asleep. I felt sure I had a case of peritonitis on hand, but to what was it due? If to a suppurating appendix or a ruptured pus tube, it was plainly my duty to open the abdomen and remove it; if to a septic uterus, to clean it out with the curette. I inclined towards one of the former causes on account of the patient having had a high fever and intense pains in the right iliac region for five days before the confinement; while, if it were due to a septic uterus, it must have been infected some days before her delivery, puerperal peritonitis not generally coming on until six to nine days after delivery. The next question for me to decide was, should I curette the uterus or explore the abdomen first? I remembered my experience in a former case in which curetting seemed to render the patient

much worse, apparently having opened fresh avenues for the admission of germs into the system; on the other hand, what would be the use of curetting if an abscess had broken into the peritoneal cavity? If the patient could have stood the two operations it would be better to curette first, and if this was not followed by improvement, to perform an exploratory abdominal section. Next morning, the 15th, she was a great deal worse, so I placed the matter fairly before the patient and family, and gave them until 3 p.m. to decide whether I should open the abdomen and remove whatever I found to be the cause. At 3 p.m. I returned with Dr. Bruère who also considered the patient's condition critical, and received permission to do whatever I thought best to save the patient's life. I then sent for Dr. Springle who ably assisted me under great difficulties to perform the operation, while Dr. Bruère undertook the very anxious task of administering the anæsthetic. An hour was spent in finding a clergyman and administering the rites of the church, and it was not until a quarter past four that the anæsthetic was begun, and about 4.30 the incision was made. It was a very rainy, dark day, the light was very poor, the room cramped, and the last sutures had to be inserted by the feeble light of a coal oil lamp. Fortunately the distension had been somewhat relieved by the Rochelle salts administered the night before and repeated that morning, so that the intestines only gave us slight trouble. We first inspected the peritoneum and found it free from lymph or pus, but the intestines were somewhat injected. We then sought for an inflamed appendix with negative results. The uterus and its appendages were very congested, but the latter contained no abscess; neither were there any adhesions anywhere. I now felt certain that the seat of the trouble was in the uterus, and, during the next sixty seconds, I had to decide whether I would sew her up and leave her to her fate, or whether I would give her a chance for her life by removing the septic organ. I decided upon the latter course, and lifting out the fundus with a vulsellum and placing the wire of Koeberlé's serre-nœud around the uterus about the level of the internal os, taking care to exclude the bladder and intestines and to include the appendages, we tightened up the wire and placed two pins through the uterus above it. A few cuts

were made in the uterus, and as they bled I tightened the wire several times until all bleeding was controlled, when I removed the uterus, leaving the stump about the size of a small apple; we then passed about two gallons of very hot water into the peritoneal cavity, puddled it about for a few moments, and syphoned it out. The peritoneum was then dried and the stump drawn down to the lower angle of the wound, which latter was then brought together with silk-worm gut sutures placed close together, and which I passed from within outwards by the sense of touch as I could not see. I did not sew the stump peritoneum to the parietal peritoneum, believing as I do that adhesions take place within a few minutes by a simple contact. The stump was not canterized, but simply buried in boracic acid and covered with boracic gauze; no drainage tube was used. The operation lasted less than an hour, and the patient was returned to bed no worse than before the operation.

I left orders to relieve her if pain should come on by the same means as before, namely, by turpentine stupes and salines. Oozing came on soon after, but was easily arrested by a few turns of the screw, which I instructed the attendant how to use. She had only one attack of pain, occurring about day-break next morning, which was relieved in a few minutes, and she has been free from pain since. There was a slight tendency to vomit next day, for which I ordered a grain of calomel every hour until the bowels were moved, and which they were towards night. The *serre-noeud* had to be tightened every six hours, until, on the third day, the end of the screw was reached, and I was obliged to put a larger instrument known as Smith's, armed with a short linen cord, which had been disinfected by boiling, around the short one. As this has happened with every case of hysterectomy, I shall in the future discard Kœberlé's and use Smith's altogether. This was tightened night and morning until the fourteenth day, when the stump came away. The bowels were moved every day with one grain doses of calomel combined with teaspoonful doses of Rochelle salts repeated every hour, for two, three, and sometimes four hours. On one occasion they had to be repeated six or eight times before they worked, the result being a mild salivation which required a mouth wash of chlorate of potash.



The first week I gave a grain of quinine and a grain of digitalis three times a day, as the pulse was so weak and fast, but after that it improved so much that I left it off. The temperature, which had been a 105° before the operation, fell to 103° next day, and 101° the day after, and on the day after reached normal, where it has remained ever since. About the end of the first week she began to have a troublesome cough, for which I gave her the compound syrup codeine of the French Pharmacopœia, prepared by Mr. Chev  . This is an elegant preparation and proved very effective. As I had read of a good many cases in which death followed laparotomy, owing to bursting open of the wound from coughing, vomiting, etc. I have not removed the stitches yet, although it is more than three weeks since the operation, and I shall leave them for another week as they are causing no trouble. The patient has a good appetite, eating steaks and chops twice a day, and she is sitting up in bed; she will be out of bed at the end of the fourth week. The hole where the stump was measures one inch in diameter and one inch in width, and is rapidly filling up. Owing to the unpleasant odor from the stump, I tried several times to cut some of it away, but it bled every time until the twelfth day, when it suddenly turned black. No narcotics were given from beginning to end of the treatment, and to this I attribute her freedom from pain. One of the most valuable lessons Mr. Tait has taught us is, that pain after abdominal section is nearly always due to wind, and the administration of morphine only increases this. The breasts were very full, but quickly dried up under inunctions of lead ointment. She was able to pass her water herself from the very first day. Her baby is thriving well on the bottle. A neighbour and a young sister who knew nothing whatever about nursing made excellent nurses, doing no more nor less, than I told them to do. They both remarked this morning that the patient was looking very much better than she did before her confinement. On examining the uterus twenty four hours after removal, it was found to contain remains of placenta which were so firmly adherent, that they would break sooner than peel off. The inside of the uterus appeared of a dark purple colour, while a semi-purulent liquid could be squeezed out of the sinuses. The walls of the uterus were soft and friable.

From the gratifying result of this case under the most unfavourable circumstances, I feel confident that this method of treating apparently hopeless cases of puerperal septicæmia has a good future before it, but on the one condition that it be not delayed until the woman is actually dying. Some may say that this was a very radical treatment, but I maintain that it was fully justified by the condition and the disease, which is one of the most fatal. In England and Wales alone there died from puerperal septicæmia, in spite of every other treatment, no less than 1,087 women last year, so that a great many thousands must have died throughout the world. Would not these women have gladly sacrificed their wombs if they could have thereby saved their lives?

Abdominal section for puerperal septicæmia has hitherto had a bad record in Montreal and elsewhere, but the reason seems very clear to me, viz.: That it is of little use to open the abdomen and wash it and then to sew up the wound, without having removed the whole cause of the trouble, namely, the septic uterus, whose walls are saturated with infection, and which no amount of curetting or washing could possibly disinfect. If, when no other cause is found, the removal of the uterus be added to the exploratory incision, I believe the operation will nearly always be followed with success.

Others may object that this woman, although alive and well, has been mutilated, but perhaps the very ones who will say this have themselves mutilated, by the removal of the appendages, many women who were in no danger of their lives, but merely suffered from menstrual pain. The operation which I performed is actually a safer one than simple removal of the normal ovaries, for I did not leave in the abdomen either the cut end of arteries, to furnish secondary or concealed hemorrhage, or ligatures to give rise to abscess. My cut end of arteries and ligatures were all outside of the peritoneal cavity where they could do no harm, being seen and under constant supervision and control. As for the prospects afterwards, I have two of my patients with fibroid who have had their uterus and appendages removed by abdominal section who are now in good health, such as they never enjoyed since puberty. As for this poor woman, she abhorred and dreaded pregnancy; she is poor, and the two children that

she has are as many as she can care for. She will now be able to perform her duties to her husband without the dread with which she has fulfilled them heretofore.

From my very limited experience I would draw the following conclusions:

1. The temperature should be taken every day after every confinement, and on the slightest rise vaginal douches of permanganate solutions should be commenced.

2. If the temperature continues to rise the douches should be made intra-uterine.

- 3rd. If there is no improvement at the end of twenty-four hours, scrape out the uterus with the finger or with the curette and apply strong tincture of iodine and wash out the uterus.

4. If the case proceeds from bad to worse and peritonitis sets in, perform an exploratory incision, and if no other evident cause can be found, remove the uterus.

Discussion.—DR. SHEPHERD asked what evidence there was of puerperal peritonitis, and what was found in the uterus after its removal?

DR. ALLOWAY said that he regretted not having seen Dr. Smith's second case in consultation, considering that it was known the uterine cavity contained masses of placental tissue in a decomposed condition. He would have counselled thoroughly curetting the cavity before resorting to so extreme a measure as abdominal hysterectomy, which must of necessity have been undertaken under very unfavourable circumstances from the surroundings of the patient. Dr. Smith's description of the condition in which he found the abdominal contents proved to Dr. Alloway's mind that there had been no peritonitis; there had been sepsis without doubt, the starting point and cause of which could have been reached through the vagina and uterine cavity. Dr. Alloway related a case of a similar nature to the one described by Dr. Smith, seen in consultation on the tenth day after confinement. He curetted the uterine cavity with Spiegelberg's instrument and packed it with sterilized gauze impregnated with iodoform and boric acid. This dressing was changed every second day during the period of a week; it was then discontinued, there

being a continuance of steady normal temperature. The patient is now well. He was recently consultant in another case (the wife of a physician), which was of a much more serious nature. The uterine cavity was curetted and she made a good recovery. He had treated a number of cases of puerperal metritis following labour at full term in the same manner, and had not as yet known death to follow the operation. He thought mortality followed an imperfect operation from want of experience in this particular branch of surgery and from the injection of escharotic fluids after the operation, especially iodine and iodized-phenol. He deprecated the use of the finger in these cases except as a means of diagnosis or exploration. He believed the curette was the proper instrument, but it must be used freely and with skill. He spoke of acute diffuse puerperal peritonitis, and strongly advocated abdominal section and washing out of the cavity with sterilized water. He spoke of gauze drainage in uterine surgery as being far superior to the hollow tube, and thought it should always be used in preference. He regretted that the reader of the paper had not brought the specimen for examination by members of the Society.

DR. WM. GARDNER, while congratulating Dr. Smith on successfully undertaking such a serious operation under such very unfavourable circumstances, agreed with the two former speakers in asking what were the contents of the uterus. In such cases he always used the hand instead of instruments, and by means of the finger explored and scraped away everything. It was the practice recommended by the late Matthews Duncan and others many years ago, and is too often neglected and instruments used instead, which may be a source of danger. In a general way he did not think that hysterectomy would be of any use in acute diffuse puerperal peritonitis, for we have a general septic condition from which recovery cannot take place. Opening the abdomen should be successful if some localized collection of pus or sero-pus, as in a sacculated ovarian abscess or pus tube, was found. He had opened the abdomen twice only; there was general peritonitis, nothing local, nothing definite in the ovaries or tubes; in such cases there might be a limited field for the

operation suggested by Dr. Smith, but it should not be done if there was anything in the uterus.

DR. F. W. CAMPBELL thought that Dr. Smith really should date a large amount of his trouble to leaving the placenta so long in the uterus. It was his custom never to leave the house without having the after-birth away. If he could not express it he would pass up his hand and bring it away, being careful not to leave any portion behind, and his success was invariable. Alluding to the fact that the abdomen had been opened with success in cases of tubercular peritonitis, he pointed out the possibility of a future for the operation when other measures failed. He complimented Dr. Smith on undertaking it, his patient was going to die and he performed a very major operation, and no matter what condition the uterus was in, it must have been the source of infection, as its removal clearly showed.

DR. ARMSTRONG thought that if he left a woman before the placenta came away he would be responsible for any future trouble. He thought the first thing that Dr. Smith should have done was to have been sure that the uterus did not contain some placenta. He greatly questioned the advisability of the operation.

DR. MCCARTHY thought that the septic condition may have proceeded from some placental tissue and that the uterus should have been douched out; he also suggested the syringe that had been used as a source of infection. Speaking on the question as to how long the placenta should be left in the uterus, he said that from what he saw in the hospitals of Munich they do not seem to lay much stress upon the time of its expulsion. In other European hospitals it was found that there is often more hemorrhage when Credé's method of expulsion is used immediately after the birth of the child than if some time be allowed to elapse before resorting to it.

DR. SMITH, in reply, said that he was pleased at the criticism. He had not undertaken the operation hastily or without consideration. He had found a good handful of placenta in the uterus after the removal, but he had not been aware of its presence. He had previously examined and scraped away two or three small handfuls, so he believed that the uterus was empty, and

from his experience of case No. 2, where he knew that there was nothing in the uterus and the patient died, he thought that he had one chance to save the patient's life and he took it. He did not wait for diffuse peritonitis, when it would be too late, but operated at the first stage when the uterus was acting as a source of infection.

THE
Montreal Medical Journal.

VOL. XX.

DECEMBER, 1891.

No. 6.

INTESTINAL PERFORATION IN TYPHOID FEVER.

Intestinal perforation is the most alarming accident that occurs in the course of typhoid fever, as spontaneous recovery extremely seldom takes place. A few cases have been recorded where the patient has recovered, but from the well known difficulty in diagnosing such a state, it is impossible to prove absolutely that recovery does take place. Practically, it may be said that intestinal perforation in typhoid is a fatal event, unless prompt measures are taken to close the rent and wash out the abdominal cavity. In the *Medical News* (Philadelphia) for November 21st, 1891, Dr. Weller van Hook of Chicago reports a successful laparotomy for perforation occurring on the seventh day of relapse in typhoid. The patient, a female, aged 31, was suddenly seized on the seventh day of a relapse with great pain in the ileo-cæcal region, followed by the symptoms of collapse, distension of the abdomen, a very rapid pulse, and temperature of 106°F. On opening the abdomen, nine and a half hours after the perforation occurred, more than a pint of fæces and inflammatory matter escaped. The opening was quickly found. It was irregularly circular and about two millimetres in diameter. It was closed with three longitudinal rows of interrupted Lembert sutures. The abdomen was thoroughly washed out, the temperature remained at 103° for four or five days, but after this the symptoms of peritonitis gradually disappeared and the patient made a perfect recovery. Dr. Hook reports two additional cases of perforation in typhoid where he performed laparotomy, but without success. Since 1884, the date of the first

operation with this object in view, Dr. Hook was able to find an account of nineteen (inclusive of his own three) cases. There were fifteen deaths and four recoveries, but in two of the successful cases it was probable that the perforation followed an appendicitis, while in the third case the peritonitis preceding the rupture was localized by previous adhesions. Excluding these three cases, then, Dr. Hook's was the only one where recovery followed the extrusion of the intestinal contents into the general peritoneal cavity.

In an admirable paper read before the American Association of Physicians by Dr. Fitz of Boston (*Boston Med. and Surg. Journal*) the following conclusions are arrived at: Intestinal perforation occurs in about one per cent. of all cases of typhoid fever. It is the cause of death in a little more than six per cent. of the fatal cases. Most cases of recovery from symptoms of perforation are those in which an attack of appendicitis is closest simulated, while the great majority of the fatal cases are those in which other parts of the bowel than the appendix are perforated. It is probable that the appendix is more often inflamed and perforated in typhoid fever than has hitherto been suspected. Dr. Fitz recommends that immediate laparotomy be employed for the relief of suspected intestinal perforation in typhoid fever only in the milder cases of this disease. In all others, evidence of a circumscribed peritonitis should be awaited, and may be expected in the course of a few days. Surgical relief of this condition should then be urged as soon as the patient's strength will warrant.

Had Dr. Hook followed the recommendations of Dr. Fitz he would not have been able to have recorded a successful case. When perforation occurs, and the contents of the intestines escape into the general peritoneal cavity, as happened in Dr. Hook's case, the only hope is in the quick performance of a laparotomy. The almost necessarily fatal ending should not deter us from resorting to this procedure. Unfortunately the diagnosis is often difficult, and not infrequently impossible. The classical symptoms of perforation detailed in text-books are as frequently absent as present. Although perforation is the most

frequent cause of peritonitis, there are several others which lead to it, and, further, the symptoms may be entirely latent. All who have had an extensive experience with typhoid fever can confirm this statement.

THE BIOLOGICAL ANALYSIS OF THE URINE.

The diagnosis of certain infectious diseases by a biological analysis of the urine promises to be an important aid to the means hitherto employed in these cases. Semmola was led to adopt this procedure through the researches of Bouchard proving the toxicity of certain urines. The first case where the test was employed by Semmola was on one of acute pneumonia following influenza. During the fourth day of the disease the patient was seized with tonic and clonic convulsions, which were considered to be due to a cerebro-spinal meningitis. This supposition was subsequently disproved as the result of the injection into rabbits and guinea-pigs of a small quantity of the patient's urine. In the animals experimented on similar convulsive seizures were induced. After lasting twenty-four hours the convulsions ceased in the case of the pneumonic patient, and the injection of urine no longer induced convulsions when injected into rabbits and guinea-pigs. In a second case the patient had septicæmia as the result of a plegmon in his right arm. A septicæmia of a similar clinical form was induced in animals by the injection into them of the patient's urine. After a few days it was found that the toxicity of the urine gradually diminished, and finally when injected no longer induced the septicæmic states which readily followed its earlier administration.

Semmola recommends rabbits and guinea-pigs as being preferable for these experiments. The dose should be small at first, and gradually increased.

THE VIRCHOW CELEBRATION.

The thirteenth day of October being Professor Virchow's 70th birthday, the occasion was made use of in Berlin and other medical centres to pay a tribute of respect to the distinguished

German pathologist. In America the only special meeting held to celebrate the event was that in the Johns Hopkins Hospital. Two admirable addresses were delivered on this occasion by Professors Welch and Osler. The former dealt in a masterly way with the leading events in Virchow's pathological career, while Dr. Osler referred to his career as a physician and politician. Both of these addresses have been published in the *Boston Medical and Surgical Journal*, and will well repay a careful perusal. It was fit and proper that the professors in Johns Hopkins Hospital should take the lead in America in celebrating the birthday of the man to whom we owe so much of our present knowledge of pathological processes. There is no other American centre that is doing so great and so good a work in this and allied fields.

ANNUAL DINNER OF MCGILL UNDERGRADUATES IN MEDICINE.

The annual dinner of the McGill Undergraduates in Medicine was held in St. Lawrence Hall, on the 26th November. The chair was well and ably filled by Mr. G. H. Duncan ('92), and the vice-chairs by Messrs. W. Rogers, B.A., ('92), and A. D. Dewar ('92), respectively. Sir William Dawson sat at the right of the chair, and Dr. Johnson, Dean of the Arts Faculty, at the left. In addition to the army of undergraduates, there were present Dr. Wilkins, Dr. Blackader, Dr. Armstrong, Dr. Mills, Dr. Shepherd, Dr. McEachran, Dr. Hingston, Dr. Craik, Dr. Campbell, Dean Bovey, Dr. Girdwood, Dr. Roddick, Dr. J. Stewart, Dr. Birkett, Dr. Finley, Dr. Lafleur, Dr. Elder, Dr. Gardner, Dr. Bell, Dr. Muirhead, Dr. McCarthy, and Aldermen Cunningham and Clendinning.

Letters of regret at inability to attend were read from Lord Stanley, Premier Abbott, Dr. Geikie of Trinity, Sir. A. T. Galt, J. N. Greenshields, Q.C., Mayor McShane, Dr. Fenwick, Dr. Wright, Dr. R. W. Powell, and Harvard Medical College.

"Our Queen and Country" was proposed by the chairman in a terse and eloquent speech, replete with patriotism and pride

of country. It was duly honoured with a chorus of "God Save the Queen."

It was left to Dr. Elder to give the toast of the evening—"Our Alma Mater." In speaking of it he said that old McGill was second to none on the continent of America in the excellence of its curriculum and the attainments of its students. He felt proud to have been called upon to give the toast, and asked for a hearty response to it. And it was a hearty response; even the staid doctors joined the undergraduates in the old university cry which fairly made the walls of the old hall ring again.

This display of friendship for the cradle of Quebec learning finished, a hush of silence spread over the banquet chamber in order that the words of Sir William Dawson, in answer to the toast, might be the more distinctly heard. Sir William was in one of his happiest veins. His speech was not a long one, but it was to the point. Through it all the hearers could distinguish the feeling of pride in McGill which filled the heart of the knight. There was one point which he made which particularly won the hearts of his audience. It was that he hoped to see the time when there would not be Provincial registration as at present, but Dominion registration, and all that stood in the way of the denied change was a little provincial jealousy which might be swept away. He counselled the young men of McGill who were about to go forth to the practice of their profession to aid in sweeping away this jealousy, and thus bring about the desired consummation. He spoke in ringing tones of the qualities of McGill, and when he sat down the ovation accorded him was such as to prove to even the most casual observer that Sir William Dawson held a large place in the hearts of his students.

Mr. Jamieson (final) gave "The Dean and Faculty," and in such a pleasant little speech as to thoroughly tickle the fancies of those in the secret of his delicately-touched-up address. He ran over the names of each member of the Faculty and had a humorous allusion for each.

Dr. Johnston answered for the Dean and Faculty, followed by Dr. Shepherd.

At this point the toast list was broken in upon at the desire of the chair, who called on Mr. Kinghorn (final) for a song. Mr. Kinghorn obeyed, and in a style which secured for him the plaudits of all.

"Sister Universities" brought to their feet delegates from Toronto Medical College, Trinity Medical College, Queen's, Bishop's, Victoria and Laval. They all had kind words to say of McGill.

Mr. Yates (final) proposed the toast of "The Mayor and Corporation," which was responded to by Acting-Mayor Cunningham and Ald. Clendinneng.

The remainder of the toast list included "Hospitals," "Benefactors," "Class of '92," "Freshmen," and "The Ladies." This closed the list and the banquet, one of the most successful ever held.

The Committee of Arrangements were: hon. chairman, Dr. Shepherd; chairman, Mr. H. B. Yates, B.A., '92; hon. secretary, Dr. R. F. Ruttan; secretary, Mr. W. E. Bostwick, '95; hon. treasurer, Dr. H. A. Lafleur; treasurer, Mr. D. M. Wood, '95; Dr. Jas. Stewart, Messrs. W. Rogers, B.A., '92, H. M. Kinghorn, B.A., '92, A. T. Dewar, '93, J. J. Ross, B.A., '94, and H. T. Knapp, B.A., '95. To these gentlemen is due the credit of the excellent arrangements which attended the banquet.

Obituary.

MR THOMAS WHARTON JONES.—The death of Mr. Thomas Wharton Jones at the advanced age of 83 years is recorded. For upwards of sixty years he has been a contributor to scientific medicine. In the year 1830 he published a synopsis of a course of lectures on physiology and anatomy, and within a few months there appeared from his pen a contribution on his favourite subject, "The State of the Blood and Blood-vessels in Inflammation. It will be principally as a physiologist that he will be remembered, but, like Mr. Bowman, he was also an ophthalmologist. Unfortunately, Mr. Jones' life was embittered by the depreciation of his work by some of the nominal leaders in biological work in his own country. Although a philosopher in his scientific work, he failed, like nearly every one of us, in being one when his work was attacked or neglected. In the *British Medical Journal* for the 28th of November there is a generous tribute of his worth from his former pupil, Professor Huxley.

Personal.

—Dr. Bacelli of Rome has been nominated president of the International Medical Congress of 1893.

—Dr. Miller, of the Berlin Dental Institute, has been offered the chair of Histology in the University of Pennsylvania.

—Mr. Joseph Bell has been elected President of the Medico-Chirurgical Society of Edinburgh.

—Dr. W. H. Hingston of Montreal has been appointed to deliver the address on surgery at the next annual meeting of the British Medical Association, to be held in Nottingham.

—Dr. William Osler, who spent two or three days in this city during last month, delivered a clinical lecture on a case of Hodgkins' Disease at the General Hospital and one on the Pathology of Malaria in the College. Both of these lectures were very highly appreciated by a large number of earnest students and practitioners.

Medical Items.

—The *Hospital Gazette* has stereotyped the heading *Death from Chloroform*, and the editors say that they have had no reason to regret the outlay. It is simply amazing to think of the apathy of the profession in the matter of the fatal effects of chloroform. How certain hospital surgeons can go on, day after day, and year after year, giving a dangerous anæsthetic when a much less dangerous one is at hand is one of these things that it is difficult to understand.

LAYS OF STUDENT LIFE—"THE NERVOUS STUDENT."

AIR—"The Village Blacksmith."

Before the dread examiner
 The nervous student stands;
 A mighty dread is in his heart,
 A bone is in his hands;
 Timidity o'er him doth hold
 Its sway with iron bands.
 His form is gay with light attire,
 His boots the latest tan;
 His *bravery* is all outside.
 No courage has this man:
 His brow is wet with fever'd sweat,
 He answers what he can.
 His fellows, waiting in the hall,
 Are pacing to and fro—
 May be with rapid, anxious tread,
 Or thoughtful step, and slow—
 Whilst some from note-books would increase
 That little which they know.
 From bone to muscle, nerve to vein,
 On, on the questions go;
 And, in reply, from student lips
 Some sort of answers flow,
 Whilst stern examiner exclaims,
 Satirically, "Oh!"
 At length the dreaded ordeal ends;
 The student hears with pain
 These words, with deadly import rife,
 "Go, Sir, consult your Quain,
 And, when six months have pass'd away,
 Come back—and try again!"
 The nervous student comes to grief,
 Whilst others, less endowed
 With talent, oftentimes will pass—
 A fact by all allowed,
 For whosoever's wanting *pluck*
 Is certain to get—*ploughed*.

HAROLD W. LANE.

—*Hospital Gazette*.

THE MONTREAL MEDICAL JOURNAL.

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

GEORGE ROSS, M.A., M.D.,

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Professor of Surgery, McGill University.

AND

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Professor of Clinical Medicine, McGill University.

JANUARY, 1892.

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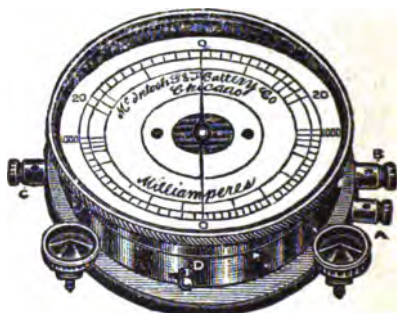
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THE

MONTREAL MEDICAL JOURNAL.

VOL. XX.

JANUARY, 1892.

No. 7.

Original Communications.

THE COLD BATH IN TYPHOID FEVER.*

BY **GEORGE WILKINS, M.D.,**
Physician to the Montreal General Hospital.

I wish to bring before the notice of this Association a method of treatment of typhoid which, so far as I am aware, is but little adopted in this Dominion, and from which I have experienced most gratifying results, during the past fifteen months, in those cases in which I have made use of it,—I refer to the cold bath treatment as advocated and adopted in England by Currie over one hundred years ago, and more recently by several German physicians in their Fatherland, as well as by many English-speaking physicians in various parts of the world.

That this method has been so recommended, I am well aware, is not news to any of you ; but as I think it more than probable that you may have shared with me in the opinion that it was a heroic method of treatment, more suitable for the Teutonic race in their native country than for those peoples dwelling on this side of the Atlantic, I thought it might be of interest to relate my experience in its use during the period of time referred to, in private as well as in hospital practice.

I should state that my attention was more particularly directed to it by the enthusiastic manner in which Dr. J. C. Wilson of Philadelphia spoke of it to me, and by the recorded history of the cases I saw there a year ago last May.

* Read at the meeting of the Canadian Medical Association, September, 1891.

Liebermeister and Brandt both recommend a procedure which differs slightly the one from the other. The former employs the cold bath principally during the night, writing out directions for the nurse as follows :

A bath is to be employed if the temperature is

104° or above between 7 and 11 P.M.

108° " " 12 and 3 A.M.

102° " " 4 and 7 "

He rarely gives them in the day-time (unless the temperature rises as high as 105°. During the night-time he has the temperature taken every two hours, sometimes even more frequently. Antipyretics he administers only in those cases in which the cold bath fails to reduce the temperature, or in which baths are contra-indicated—to which point I will refer later on.

Brand takes the temperature, without regard to time of day, as an indication for the cold bath. He advises it to be taken every three hours, and the bath at a temperature of 68° to be used every time the rectal temperature 102°.2.

During the first six months of my treatment Liebermeister's method was adopted by me, but since then I have adhered to Brand's instructions, with the difference that the temperature was taken in the mouth instead of the rectum, and the outside limit of the bath used by me is ten minutes, which I have found sufficiently long in all the cases. Of the two methods, I find the latter the more efficacious. I may say I do not use the bath in all cases. In those in which I make use of it I proceed pretty much as follows: Ordinary bathing trunks are placed on the patient, the bath placed by the bedside ; the patient is either lifted into it or occasionally steps in himself ; a nurse pours water on the head or cold compresses are placed on it ; the patient is kept in the bath for a period of time varying from five to ten minutes ; a dry blanket and sheet are placed on the bed, and in this the patient is rolled up and left for half an hour. At the end of this time he is uncovered and wiped dry, and his night-clothes placed on him and left until such time as the bath may be required again, according to the temperature. The almost universal rule is that the patient falls asleep as soon as removed

from the bath ; in one case—a female—she fell asleep in the bath. The temperature is always taken half an hour after the bath, and it very rarely occurs that it is not over two degrees below what it was previous to the bath. This procedure is repeated as often as the temperature rises above 102.2° . In one of my patients, a child of seven years, during the space of ten days, received thirty-five baths, seven of these having been given him during a period of twenty-four hours. When the temperature fell below the standard requiring the use of the baths, the nurse remarked to me that the child was more restless than during the bath treatment. This year, so far, convalescence has been very rapid, much more so than those in which the expectant method was pursued, or those in which the temperature had not risen high enough to necessitate this treatment before some contra-indication. One of these apparently mild cases was the most serious under my observation this year ; a girl, aged 19, with a temperature in the early portion of her illness not above 102° , who had several severe hemorrhages and also paralysis of posterior fauces, as well as a remarkable paretic condition of both lower limbs and complete loss of deep reflexes. After the hemorrhage made its appearance, the temperature rose high enough for the baths to be of benefit in an uncomplicated case, but as hemorrhage was one of the contra-indications for the bath, this treatment was not adopted in her case.

The question naturally arises, How is the tendency to hemorrhage affected by the cold bath ? I have not had a sufficient number of cases of my own to form a reliable estimate, but from the large number of cases reported to have been treated in this way by several German physicians, notably Liebermeister, Jurgensen, Brand, and also from the very instructive paper published by Dr. Hare, of Brisbane Hospital, in the March number of the *Practitioner*, there can be no doubt that unfavourable results are much less frequent, although, as far as the actual occurrence of hemorrhage was concerned, the percentage in Dr. Hare's 1173 cases was but slightly lessened, whilst the total mortality was reduced 50 per cent. The experience of the German physicians was somewhat different to this in the occur-

rence of the hemorrhage, having been actually lessened very materially. Theoretically we should expect it to be so. With fever, part of the food intended for the nutrition of the tissues is diverted from its destination; the tissue elements themselves are more rapidly broken down with the resulting wasting of the body. The process of repair is always impeded where there is fever, and not only that, but molecular death (ulceration) if occurring in an individual whose temperature rises above normal, is accelerated. We see this in simple ulcer of the leg. Should a patient suffering from such an ulcer be subjected to a high temperature, the process of repair will be retarded, if not quite arrested. The probabilities are that molecular necrosis—i.e., the ulceration—will make more rapid strides until the temperature is again brought down to normal. The same state of affairs is also likely to occur in the ulcerated patches in the bowels, and more rapidly and consequently deeper, the higher the temperature. Lower the temperature and we restore for the time being the *vis medicatrix naturæ*, which in typhoid is all important in so far as the ulcerative condition of the bowels is concerned.

Speaking generally, a high temperature lasting only a short time is not likely to do much damage, even repeated high temperature, provided there is an interval of the normal state, during which time the injured organs will probably have time to be restored to their normal condition. This we see frequently in intermittent fever. The more nearly we succeed in making typhoid resemble such a fever in its course, the greater the chances of success in treatment.

Not only does high temperature favour the necrotic condition to which I have just referred, but it causes degeneration of the parenchyma of the organs, such as liver, kidney, and other glandular organs, as well as the heart and voluntary muscles. Nor does the brain and other parts of the nervous system escape the deleterious effect of the continued high temperature. Hence the importance not simply of reducing the temperature, but of doing so rapidly. It is quite true that in quinine, salicin, antipyrin, antifebrin, phenacetin, as well as other new drugs, we

have powerful and useful remedies. None of them, however, act so rapidly as the cold bath, nor do they possess its soothing effect. The typhoid patient with a temperature of 104° , restless and sleepless, within ten minutes after the bath, if not asleep, will rest quietly. In the majority of cases he sleeps from half an hour to an hour after each bath. In nearly every case the temperature is lowered over two degrees.

No other antipyretic treatment has such a marked beneficial effect on the pulse. Even when the temperature rises temporarily to a high degree during the interval of the baths, there is an absence of that impairment of function of the heart which is so frequently manifested by the rapid and weak pulse. Quinine, when administered in doses of three to five grains, is a most useful cardiac tonic, but must be administered in very much larger doses to reduce the temperature equally with the cold bath. Several hours are required before its effect is perceived, and then it gives rise to other objectionable symptoms; in fact, in its antipyretic dose it possesses only one of the beneficial results of the cold bath.

Besides lowering the temperature and soothing the nervous system, it has been shown that lung complications, which are so frequent in any other treatment than that by the cold water baths, are reduced to less than one-fourth in frequency.

It is a popular belief, shared, I fear to some extent by a few physicians, that the cold bath will tend to produce mischief in the respiratory apparatus—*i.e.*, the patient will “take cold.” Quite the reverse is proved to be the case. Liebermeister draws particular attention to his experience in this respect. With him, in the cold bath treatment, the percentage of cases presenting respiratory complications was much less than in any other method of treatment, and also the mortality amongst these lung troubles had a much lower percentage of mortality. Dr. Hare’s experience was still more favourable than in the results given by Liebermeister. Fatal cases occurring with him, as mentioned by me a few moments ago, in only one-fourth the number of those treated by him in his so-called expectant method, which included cold sponging and the occasional administration of anti-

pyretics. These different results may be accounted for by the slightly different methods of treatment. Hare followed strictly the rules laid down by Brand, whereas Liebermeister adhered to the method mentioned in the early part of this paper. Last summer the last method of treatment was the one followed by me in my wards in the General Hospital, but this year I have adhered strictly to Brand's instruction, with much better success generally. Out of fourteen cases of bath treatment this year, so far, none presented any lung complications; whereas in four cases in which it was not adhered to, two had bronchial affections.

To estimate the value of the bath treatment, we must consider the causes of these respiratory troubles in the typhoid. This is not far to seek in the weak heart, which may produce varied conditions. Collapse of the air-vesicles is one of these results. It may arise in the left side of the heart, the blood dragging lazily along the bronchial vessels gives rise to a catarrhal condition of the bronchioles, as a result of which they become choked up. A blunted sensibility of the nervous system, with, later on, weak respiratory muscles, prevents mucus being expectorated, with a resulting collapse of that portion of the lung. Or the right side of the heart may be the faulty one, with a resulting congested state of the branches of the pulmonary vessels in the alveoli of the lungs, developing probably a fatal pneumonia. Usually both sides of the heart are involved in the respiratory troubles, producing a more or less complete broncho-pneumonia.

Now in cases of this kind, the cold bath, instead of being injurious, is especially suitable. The contact with the cold water invariably produces deep inspirations, thus avoiding the tendency to collapse of the lung. Coughing is induced, the mucous plugs are expectorated, and the over-strained heart is relieved; and what is more, the heart itself is directly stimulated.

The object of this paper is not to go into the treatment of typhoid fever further than to add my testimony in favour of the cold water bath.

So far my practice has been to keep the patient under observation twenty-four hours, so that there can be no possibility of

doubt as to the nature of the case, and to see also that no contra-indications are present—the latter, of course, can be made out at once; and also to see that the case is a suitable one for this treatment. During this time the temperature is taken every three or four hours. Sometimes it is a source of trouble to overcome the objection of the patient to cold water. That occurred twice this summer. One man during the space of three days had seventeen baths. On one of these days eight baths; that day his temperature kept in the vicinity of 104° , but was brought down to between 100° and 101° by each bath. He slept from half an hour to two and a half hours after fourteen out of seventeen of the baths. The last two or three baths he took most unwillingly, and at the last bath he growled and complained so bitterly that I ordered them to be stopped and sponging to be substituted. Even this he objected to. He was much more restless after the baths were discontinued, but continued slowly to improve, his temperature reaching normal for the first time on the morning of the nineteenth day after discontinuance of the baths.

Another patient who was delirious resisted the first bath so violently that it was not attempted again. He, however, made a fair recovery.

I have just now, Sept. 13, in private practice, a child of nine years old who is getting cold baths regularly, although on the day I am writing these notes (Sept. 13) I have had it discontinued temporarily because he has cold extremities and complained of being chilly in his last bath, although just before it his temperature had reached 106° .

I mention this case because it is the fourth case in the same family, and because one of these cases, I quite believe, was aborted by the bath treatment, if you can speak of such a thing in connection with typhoid. The first case in this family dragged along slowly by the expectant method, during which time I happened to mention my hospital treatment to the child's father. During my absence from town the second case developed, a child of seven years, when its father took upon himself the responsibility of putting into practice the method I had spoken of, with

the consent of the physician temporarily in attendance. The rules of Brand were strictly adhered to at the first onset of symptoms, with the result of complete subsidence of the fever in about six or seven days. I was rather skeptical of this being a case of typhoid until the other two cases developed. All four were subject to the same source of infection—well water in a country place. In another of these cases the bath treatment is being followed out, so far with marked success.

In only one case in which I made use of the cold baths was there a fatal result, and that was one which, from my present experience, I would hesitate in trying again, although the probabilities are I might do so. It was that of a man aged 21, who was admitted to the hospital on what he supposed to have been the fourth day of his illness, but must have been later, as there was present, on admission, slight broncho-pneumonia with traces of albumen in his urine. Respirations were rapid, as was also his pulse. Twenty-four hours after admission he was delirious, and twelve hours later subsultus tendinum was present. As the patient had not slept since admission, and was very restless, the cold bath was given, bringing the temperature down from 104.4° to 103 , but quickly rising again, without much apparent relief to the prominent symptoms. Subsequent baths brought down the temperature on each occasion. He had seven baths in all during the space of four days, notwithstanding which he died of his lung affection, complicated with cerebral symptoms.

The contra-indications to the use of cold baths would be hemorrhage of the bowels, peritonitis, and a weak heart as manifested in the rapid pulse or feeble circulation. The latter might be overcome by the judicious use of quinine and other cardiac stimulants. To these contra-indications I may add the determined opposition of the patient to the bath. Mental excitement alone, we all know, in these cases, will cause the temperature to rise, and if we cannot prevail upon the patient to give his consent, there is but little use in trying these measures.

As heat abstraction is only one of the beneficial effects of the cold water, its action on the nervous system being probably the most important in avoiding the tendency to death. This it does,

I believe, through its action on the peripheral ends of the nerves, which it stimulates, exciting the various reflexes. When the febrile condition has lasted a couple of weeks or more, the nutrition of the centres and the reflexes is so interfered with that they respond but feebly, hence the bath treatment in this stage of the disease is quite a different thing from that in its earlier stages.

I should be inclined to hesitate before adopting the cold bath treatment in such cases, but in all cases where seen during the first week, in the absence of the contra-indications I have just mentioned, I would most confidently recommend it.

A CASE SHEWING DIFFERING AXILLARY TEMPERATURES.*

By W. H. HATTIE, M.D.,

Asst. Physician Nova Scotia Hospital for Insane, Halifax.

T. S., æt. 21, admitted to N. S. Hospital for Insane on August 28th, 1891, had the following history:—

Prior to Dec. 31, 1890, he had always enjoyed good health. On that date, while in St. Louis, he received a blow over the left temporal region, causing a fracture of the skull and rendering him immediately unconscious. In a few days, however, he was able to be about again, but was irritable and suspicious of those about him, and these symptoms increased until, on the 19th of January last, he was admitted to the Alexian Brothers' Hospital in St. Louis. There he was trephined, and a large clot of blood was removed from between the dura and the bone. An acute maniacal attack followed the operation; but after it subsided the mental symptoms began to improve slowly, and he was removed to his home in Halifax. The improvement, unfortunately, was only temporary, and he was very soon admitted to the Victoria General Hospital in this city for the purpose of having a further operation performed. The original wound was reopened, but nothing explanatory of the mental condition was

* See Temperature Chart for a period when the variability was especially marked. The thermometric readings were carefully made by a competent attendant, and frequently checked by myself—the same thermometer being used throughout. The dotted line represents the right side—the continuous line the left. The mouth temperature generally registered a little above that of the left axilla.

results from the experiments upon dogs by Eulenburg and Landois. These experimenters found that injury to the cortex in the immediate vicinity of the motor area caused a rise of temperature in the opposite side of the body, and this elevation sometimes persisted for several months. Wood's experiments have afforded a practically similar result, as have those of Hitzig, Bechterew and others. Mr. Victor Horsley mentions having observed in man a higher temperature on the side opposite an injured motor area than on the corresponding side. The case I present, therefore, is not unique, but only goes to add to a literature which I think is scanty, and to give additional weight to the idea of a thermotaxic arrangement (having an inhibitory function) existing in the cerebral cortex.

There are many reasons for considering the existence of such an inhibitory centre in the cerebrum. In cases of hemorrhage into the pons, or of embolism in that situation, a rise of temperature is the rule. The same is true of many cases of lesions high up in the cord. Any of these conditions would cut off the supposed inhibitory centre from the conducting nerves, and thus, according to our theory, explain the increase of heat. But sometimes a *fall* of temperature is the result of such conditions. We must then suppose the explanatory element to be shock—in which the loss of tone in the vascular system is most favourable to the rapid and excessive dissipation of heat.

I think that the only explanation applicable to our case lies in the assumption that a heat regulating centre actually exists in or very near to the motor area of the cortex cerebri, and that injury in the neighbourhood may bring about more or less complete disorganization of this centre. The inconstancy of the difference between the temperatures of the two sides is a notable feature in the case, and makes its solution more difficult. But we well know that a disordered mind is liable to constant variation, and we must look upon mentalization as a function of the cerebrum. Why, then, should not the heat regulating function be as prone to variation when disordered as any other brain function?

SALPINGITIS AND PYOSALPINX.*

By GEO. E. ARMSTRONG, M.D.,

Instructor in Surgery, McGill University; Surgeon to Montreal General Hospital.

My experience with a series of cases of disease of one or both fallopian tubes and sequelæ has made me think that the treatment of this condition, although plainly indicated by many writers, notably and in the position of a successful pioneer, Mr. Lawson Tait of Birmingham, is not yet fully appreciated by the great mass of general practitioners.

I have nothing original to add to the subject, but I have reason, as you will see, to advocate a treatment of this class of cases quite as radical as that taught by Mr. Lawson Tait. I believe that many women are to-day making the rounds of consulting rooms and being treated by pessaries, glycerine tampons, hot water douches, and local blistering, who are really suffering from salpingitis. I also believe that this treatment is wholly insufficient to cure, and this is proved by the fact of their changing one consulting room for another, or returning to the same consultant after a longer or shorter period of only comparative relief and comfort. Trachelorrhaphy has been performed a great deal, and too often has been regarded as a cure-all remedy. It is easy to recognize a lacerated cervix, and also easy to repair it, but it is not so easy to sit in your office three months after and listen to a rehearsal of symptoms similar to the ones complained of before the operation was performed. Every family physician here has probably one or more ladies among his clientele who have visited some medical centre and had an operation, and still appeal to him for relief from symptoms similar to those complained of before operation. I do not mean to belittle that most useful operation of trachelorrhaphy in properly selected cases, but I draw attention to the necessity of excluding disease of the appendages before advising it.

In this paper I purposely omit all allusion to that larger subject of the etiology of salpingitis and confine myself to two points only, the diagnosis and treatment of salpingitis and pyosalpinx. It is the duty of every one assuming the position of

* Read before the Medico-Chirurgical Society of Montreal.

advisor to those suffering from pelvic disease to familiarize himself with the details of a thorough and systematic examination of the pelvic contents, and to persist in the practice of these details until he becomes an adept at it. The palpation of the tubes and ovaries, though not as easy in many women as some would lead us to believe, may yet generally be made to yield valuable information, especially when placed by the side of the subjective and other objective symptoms, and the decision may be the saving or losing of a life.

Noeggerath, William Japp Sinclair and Tait and Virchow, have taught us much of the pathology and prognosis and treatment of these cases. They have taught us that in desquamative salpingitis the ciliated epithelium is destroyed; that the tubes deprived of the ciliæ which perform the double office of carrying the ovum along towards the uterus and preventing the spermatozoa from passing from the uterus along the tube, are the tubes in which an impregnated ovum may lodge and develop. The timely removal of such tubes would prevent the possibility of the occurrence in the patient from whom they were removed of the results of tubal pregnancy and rupture. They have also taught us that in salpingitis one or both ends of the tube may become occluded, and that constrictions or strictures result. Then between these strictures pus may form, increasing under favourable conditions, distending the tube, thinning its wall, and finally, in a percentage of cases, rupture, setting up localized and sometimes general peritonitis of more or less severity. These are the grave disastrous results that may follow a salpingitis, and I will illustrate them by briefly mentioning a few cases. The minor results of salpingitis being pelvic pain and distress, and malnutrition incapacitating the sufferer to a degree for the duties of an ordinary life.

It has been noted by several writers that a history of tubal disease precedes in many cases tubal pregnancy, as in the following cases:

Mrs. L., æt 30, began to menstruate at 11 years of age, and from the first suffered from severe premenstrual pain. Her first and only child was born twelve years ago.

Eight years ago she was treated for some weeks for pelvic pain. In April, 1891, when shopping, she was suddenly

seized with a very severe pain in the right side of abdomen low down; she fainted and was unable to walk home. After a week's rest in bed she went out again and was once more seized with this same pain. The first seizure was five weeks after the cessation of the last menstrual period. On examination a large doughy mass was distinctly felt in right side of abdomen and pelvis. I removed it through a median incision. It consisted of a large blood clot surrounded by lymph, upon its upper surface lay the right fallopian tube. On the under surface of the tube was a large irregular shaped opening through which a cavity in the tube communicated with the blood clot. Dr. Wyatt Johnston kindly examined the specimen for me and found chorionic villi. Recovery was rapid and perfect.

Mrs. S., a patient of Dr. Allan of this city, who kindly asked me to see her with him, had a history of tubal disease beginning four years ago, and increasing every six or eight months since then, each attack lasting three to six days. When I saw her she had been ill eight days; her pulse was 120°, temperature normal; attack began with severe pain four weeks after last menstrual period. She complained of severe pain in right hypogastric region. A soft fluctuating mass distinctly felt per vaginam behind and to the right of the uterus. On opening the abdomen clotted blood welled up. The right tube and ovary were seized, a ligature thrown around them close to the uterus and removed. They presented the appearance shown in the drawing made for me at the time by Dr. Springle. The chorion is seen lying at the distal end of the tube. After its removal hemorrhage at one ceased.

Recovery was uneventful and without a bad symptom. In the coagula was found fragments of the yolk sac and parts resembling foetal structures.

In other cases the tube becomes constricted at points and sometimes one or both ends occluded, and these cases have a different history.

The first case that I report was very instructive, and complete as the condition was made out at a post mortem examination, and I can't but think that it represents a class of disastrous cases that are not always recognized, because too often the privilege of a post mortem examination is denied us.

On the 10th March, 1887, I confined Mrs. F., æt 36. Her labour was easy and rapid, the child was born at 10 a.m. At 4 p.m. I called and found my patient happy and jolly, enquiring how long I wanted to keep her in bed. I had scarcely left the house when she suddenly complained of a most intense pain in the abdomen. She rapidly developed a septic peritonitis, and though I opened and irrigated and examined her abdomen, she died thirty hours after her confinement.

I obtained permission to make an autopsy and then found a small abscess in left fallopian tube which had ruptured, and the escaped pus had undoubtedly set up the fatal peritonitis.

This woman had suffered from an inflammation in the left hypogastrium ten years before. At that time she was ill and under medical care for nearly two years. Her recovery was fair though she never afterwards enjoyed perfect health. She always suffered at her menstrual periods, but recovered sufficiently to become pregnant, probably from the right tube. If her tubes had been removed during her first illness, I think her chances for life would have been greatly increased, and I think probably life is as much desired by the fair sex as by man, and as Dr. J. Price forcibly remarks, women should not be considered altogether as child bearing organisms.

Mrs. D., æt 25, was admitted to the Montreal General Hospital on the 8th May, 1891, complaining of severe pain in lower part of abdomen and incessant vomiting. She was confined eight weeks before admission. Her labour was tedious and completed by forceps. She progressed favourably until the third day when she had three chills followed by a temperature of 102° F. and severe adomimal pain. The pain extended through to the back and down the right thigh. She got up on the eleventh day, and again on the twelfth day. On the thirteenth day she felt a soreness in the right side, and on the following day, the pain continuing, she remained in bed that day and the next. On the twenty-third day pain in right side again returned accompanied by vomiting, and a hard lump was felt in right hypogastric region. The history from this date until she was admitted to the hospital was one of pain, chills and profuse sweats. On admission she was pale, anæmic and emaciated; eyes sunken, a pained drawn expression of face, she lays on her back with her knees drawn

up; temperature, 104; pulse, 140; respiration, 36; heart and lungs normal; urine scanty, specific gravity 1022, acid, no albumen or sugar. On the right side of the abdomen a hard, painful tumour was plainly to be felt and seen, extending nearly to the median line. Per vaginam, a bilateral laceration of cervix and a hard mass to right of uterus pushing it over to the left. After consulting with the hospital staff I opened the abdomen and found the right tube dilated into a pus sac and surrounded by more than the usual amount of inflammatory lymph. Her recovery was uninterrupted. She left the hospital on the 17th June.

It would be very interesting to learn how many of the cases formerly grouped together as cases of puerperal fever were really suffering from tubal disease, of course not all by any means, but probably a very considerable percentage.

It would almost seem from the history of some of these cases, as if pregnancy and the increased nutritional activity and hyperplasia that take place during that time in the generative organs lighted up old tubal diseases. In the case of Mrs. F., her first illness dates back ten years before her pregnancy. During the last four or six of those years she had been fairly well. Her tube ruptured six hours after confinement.

Another case seems to point in the same direction.

Mrs. B., æt 36, confined eight years ago. Recovery unsatisfactory, and accompanied and followed by pelvic pain. Four months ago became pregnant, miscarried, and had a severe attack of pelvic inflammation followed again by imperfect recovery. Became pregnant again in the early part of June last; miscarried in the end of July. Her miscarriage this time was followed by symptoms of acute peritonitis, acute pain, high temperature, and rapid pulse and vomiting. I was called to her in the middle of the night, and found, in addition to the above mentioned symptoms, a distended abdomen and a great degree of paralysis of the muscular coat of the intestines. On opening the abdomen a large quantity of pus was found in and about the fallopian tube of the right side and septic peritonitis.

Clearly this was a case in which the timely removal of the pus tube could have been undertaken with every prospect of

chorea of the right side of the body in the fourth month of pregnancy ; in a few days the left side became involved while the right side began to improve. By appropriate mechanical treatment the retroflexion was corrected, and the chorea disappeared in little more than a week.

The case has been so carefully observed and reported by Dr. Wetmore that I append it in his own words, slightly condensed.

Mrs. —, æt. 31, 3-para, with pronounced neurotic history, subject to hysterical fits,* ceased to menstruate about the middle of November, 1890. She complained on January 13th of palpitation, dyspnoea on exertion, headache, lumbar and hypogastric pain, puffing of feet and eyelids. Has had two hysterical attacks since the cessation of menstruation. Is very anæmic. On examination, the uterus was found to be sharply retroflexed, the os lacerated, the fundus tender. Urine normal. On the 28th she was complaining of epigastric pain, flatulent distension, vomiting and anorexia, frontal and vertical headache. On Feb. 6th she sent for me, being much alarmed at finding her fingernails purplish. She complained of vertical headache, or rather a feeling of lightness in the head. On the 10th she wrote that she was up, but complained of "shaking of the fingers, hands and flesh." On the 14th I found her suffering from paresis of the right arm and leg, with twitchings of the right side of the body which she could not control. The patellar reflexes were normal. I found the ovaries painful and the thyroid enlarged ; there were headache and constipation, but no cardiac palpitation. On the 21st there were twitchings of the right half of the body, the right corner of the mouth, arm, shoulder, side and leg ; twitching was especially marked in the toes. The movements were characterized by their slowness and the extent of space through which the part moved, this being particularly noticeable in the face and fingers. The movements were worse when her attention was drawn to them. Her husband said that they continued during sleep. She complained of numbness and coldness in the right leg. Said her tongue felt so thick at times that she

* After her first confinement, I found the umbilical cord tied around the thigh for the cure of the fits.



HEMICHOREA IN PREGNANCY CAUSED BY ACUTE RETROFLEXION OF THE GRAVID UTERUS.

AN INTERESTING CASE REPORTED BY DR. F. H. WETMORE, OF
HAMPTON, N.B.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS,—Chorea is a comparatively rare affection in pregnant women, not more than 80 or 90 cases altogether having been recorded. Judging from these statistics, chorea must be regarded as a very grave complication of pregnancy, the maternal mortality being 30 per cent. and the foetal still higher. But as severe cases only seem to have been reported, it is highly probable that it occurs in milder forms more frequently than the statistics seem to show. Careful reports of mild as well as severe cases would help us greatly in solving the vexed questions of etiology and pathology in this disease.

The chief predisposing causes are hereditary influences and depraved conditions of blood, while violent emotions, acute rheumatism and local genital irritations are commonly set down as the usual exciting causes. Out of 66 cases collected by Barnes and Wenzel, 7 were traceable to violent fright and 7 to rheumatism and endocarditis. In many of the graver cases, an old chorea seems to have been excited into renewed activity, while in the milder forms mental emotion and peripheral irritation were evidently the causative factors. In the non-pregnant, peripheral lesions or cicatricial contractions may set up choreic movements, which subside as soon as the irritating part is excised; so in pregnant women peripheral irritation may be propagated from the uterus to the central organs, and may keep up choreic movements till the cause of irritation is removed. This is well exemplified in a case sent me by Dr. F. H. Wetmore of Hampton, New Brunswick, where an acutely retroflexed uterus was evidently the exciting cause of a chorea which subsided as soon as the cause was removed. The case is interesting on account of the unusual course of the disease. An anæmic, neurotic patient, subject to hysterical fits, bearing family rapidly, with a lacerated cervix and a tender retroflexed uterus, developed

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY

BY FRANÇOIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.

Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

At the recent meeting of the Congress of American Physicians and Surgeons one of the most interesting and instructive discussions was that on the *Conditions Underlying the Infection of Wounds*. Prof. Welch of Baltimore (*Amer. Jour. of the Med. Sci.*, Nov. 1891), in his address (which is too valuable to quote in abstract and too long to reproduce), considered the subject under the following heads: (1) What are the micro-organisms concerned in the infection of wounds, and how do they act? (2) How are we to explain the great differences in the effects produced by pyogenic micrococci—their apparent harmlessness under some conditions and their fatal influences under others. (3) What are the ways by which bacteria gain access to the wound? (4) How often are bacteria to be found in wounds treated antiseptically or aseptically? What are the characters of these bacteria and where do they come from? (5) What are the best means of surgical disinfection? Dr. Welch's observations on the colon bacilli are most interesting. He says they are most frequent invaders in intestinal disease, and their chief interest lies in the fact that they furnish an illustration of the possible predisposition to infection afforded by intestinal lesions and explain the much disputed point of auto-infection. The danger of infection of wounds comes chiefly through the instruments used, the hands of the operator and his assistants, and the skin of field of operation. Instruments should be sterilized by heat and hands and skin are advised to be treated in the following manner:—

(1) Nails to be kept short and clean.

(2) Hands should be washed thoroughly with soap and hot water for several minutes, and a brush used which has been sterilized by steam. The excess of soap should be washed off with fresh water.

(8) The hands should be immersed from one to two minutes in a warm saturated solution of permanganate of potash and rubbed over thoroughly with a sterilized swab.

(4) They should then be placed in a warm saturated solution of oxalic acid, where they should remain until complete decolourization of the permanganate occurs.

(5) They should then be washed off with sterilized salt solution or water.

(6) And, finally, they should be immersed for two minutes in a sublimate solution, 1-500.

Dr. Roswell Park and others also gave addresses, for an account of which the reader is referred to the proceedings of the Congress in the various journals published towards the end of September, 1891.—(See *N. Y. Medical Journal*, Sept. 26th ; *Phila. Med. News*, Sept. 26th.)

Infection through Drainage Tube.—Drs. Robb and Ghriskey (*Johns Hopkins Hospital Bulletin*, July 1891) came to the following conclusions: (1) That dressing a wound should be avoided except when absolutely necessary. (2) That without strict asepsis the drainage tube may be a source of great danger. (3.) That the disrepute into which the drainage tube has of late fallen is due to want of proper care in carrying out the technique for the maintenance of an aseptic state of the wound. In this connection I might quote a conclusion from the paper of Dr. Roswell Park read at the recent Washington meeting. It is this: "When *this* work is strictly aseptically performed, the use of drains or further employment of antiseptics is either an expression of mental uncertainty or of fear. It may be in the interest of humanity—undoubtedly it often is—but it is not obtaining the ideal scientific work."

Mr. Lawson Tait, in a clinical lecture on *The Details Necessary in the Performance of Abdominal Section* (*Lancet*, Sept. 12th, 1891) says, regarding antiseptic methods: "A good deal has been written the last ten years upon so-called antiseptic methods of performing operations and antiseptic precautions to be taken during the performance of the operation and after it. I do not propose to take up further time in discussing a matter

which clearly has come to its end, save to note that the last assertion of those who advocate these antiseptic precautions is that antiseptics really means absolute cleanliness. But this is not the case. It is mere perversion to say anything of the kind. . . . We who are opposed to the antiseptic doctrines and antiseptic practice argued that the germs were harmless if dead and dying material upon which they might feed were removed from the wound. . . . I venture to predict that four or five years hence the use of the term 'antiseptics' will be dropped, and we shall hear no more of this strange phase of surgical eccentricity." This dictum of Mr. Tait's seems to me most unscientific and illogical, even when applied to abdominal surgery only. His teaching seems to be doubly absurd and even dangerous when perused in connection with the masterly, logical and most scientific address of Dr. Welch, who leaves nothing to blind conjecture, but works out every point in the most painstaking and scientific manner, every stage of the process being verified by experiment on man and the lower animals. It is the difference between the inductive philosophy of Bacon and the empiricism of Paracelsus. Time will show where the truth lies, but antiseptic and aseptic surgery will live and be adhered to long after Mr. Tait has been gathered to his fathers.

Laminectomy for Spinal Compression.—At a meeting of the Clinical Society of London, held Oct. 23rd, 1891, Mr. Abuthnot Lane read brief notes of eleven cases of laminectomy performed for compression paraplegia resulting from spinal caries. He pointed out (1) that in every case, with one exception, where the granulation material had not yet broken down, the cord was compressed by an abscess; (2) that in none of these cases was there observed any such fibrous neoplasm involving the posterior surface of the dura mater as was described by that distinguished pioneer of spinal surgery, Dr. Macewen, showing that that condition must be of infrequent occurrence; (3) that the conditions found at the operation appeared in every case to preclude the possibility of recovery of the spinal column and cord without surgical interference; (4) that several of these cases would have of a certainty died from chest or bladder complications from

which they were suffering, and which only disappeared when they recovered power over their intercostal and abdominal muscles ; (5) that though several of the patients were dangerously ill, they bore the operation well ; (6) that in the only case in which death was consequent upon the operation, the child was extremely feeble ; (7) that in only one case was the subsequent formation of tuberculous matter so rapid as to obliterate very quickly the benefit derived from two operations ; (8) that apart from the presence of the symptoms resulting from pressure on the cord, the very large amount of disease present in every case but one and the size and extent of the abscess cavities rendered it impossible for the bodies to ankylose and the spinal column to become useful without operative interference ; (9) that in most of these cases the cord was compressed about the level of the 3rd or 6th dorsal vertebra. In the face of these facts he thought he was quite justified in urging that every case of paraplegia due to spinal caries should be operated on with as little delay as possible. He considered that the treatment by prolonged recumbency was bad both in principle or practice. Operative interference involved very slight risk. It was followed by very little. It relieved the patient of the compression symptoms, and lastly, but not of least importance, it enabled the surgeon to treat the diseased vertebræ directly not only by spooning, irrigation, and the thorough removal of all carious material and diseased bone, but also by the repeated local application of iodoform, from which he believed he had received the greatest benefit. The operation of laminectomy was recently performed at the Montreal General Hospital by Dr. James Bell on a young child paraplegic from spinal caries. No pus was found, only an excess of granulation tissue.

In a paper read before the American Surgical Association on the *Present Status of Brain Surgery*, Dr. D. Hayes Agnew (*Univ. Medical Mag.* Oct. 1891) comes to the following conclusions :—

(1) That all fractures of the skull attended with depression, however slight and entirely irrespective of symptoms, should, in view of the late after effects, be subjected to the trephine.

(2) That trephining for traumatic epilepsy promises only palliation at best.

(3) That trephining for abscess, in view of the fact that all such cases left alone almost invariably terminate fatally, is entirely proper, and that the earlier such operation is done the better.

(4) That trephining for intra-cranial traumatic hemorrhage is both an imperative and highly promising operation.

(5) That trephining for cephalalgia or traumatic headache, medical measures having failed, should be undertaken with every prospect of success.

(6) That trephining for hydrocephalus is a useless operation.

(7) That trephining for microcephalus, independent of athetosis, confers no credit on surgery.

(8) That it is more than probable that as our observations multiply the sphere of the trephine, as a preliminary for the removal of brain tumours, will be lessened rather than amplified.

Leonte and Bardesco of Bucharest (*Rev. de Chir.*, Oct. 1891) state that since 1886 they have trephined twenty-two times on twenty patients for injury and disease, with the result of 13.50 per cent. of fatal cases. They come to the following conclusions:

(1) Trephining, when performed in accordance with the rules of modern antiseptic surgery, is not a dangerous operation; the indications for the operation and the frequency of its performance are increased by the doctrine of, cerebral localization.

(2) Intervention is justifiable in cases of paralyses or convulsions when these conditions are due to direct irritation or to functional destruction of the brain centres.

(3) In considering the propriety of operative interference the surgeon should take into account not only disturbances of mobility, but also subjective sensorial troubles, as the occurrence of such signs might indicate the place where he ought to trephine, whilst trephining is expressly indicated in the presence of symptomatic paralyses and convulsions; in cases of genuine epilepsy, on the other hand, the operation is empirical and its results difficult to appreciate.

(4) The earlier the date of operation and the shorter the in-

terval between the first appearance of the nervous symptoms and its performance the more assured are the prospects of success.

(5) The coexistence of monoplegias with convulsions decidedly indicates trephining.

They conclude by stating that the results of treatment are sufficiently good to encourage surgeons to continue this line of practice.—(Quoted in *Sup. of Brit. Med. Jour.*, Nov. 4, 1891).

In a paper on *Craniectomy for Microcephaly* by Victor Horsley (*Brit. Medical Journal*, Sept. 12, 1891), he concludes as follows: "The personal experience of but two cases will not justify any dogmatic statements on this operative treatment of microcephaly and premature synostosis; but from collection of published instances, I am convinced that it should be carried out in all cases, inasmuch as the condition is otherwise absolutely without hope, and interference has evidently secured notable improvement in some cases. Obviously there are special risks to be guarded against, but these can be readily avoided by limitations of the extent of the operation undertaken at the time."

Laparotomy for Intestinal Perforation in Typhoid Fever.—According to R. H. Fitz of Boston (Proceedings of Association of American Physicians, 1891), intestinal perforation is found in about one per cent. of all cases of typhoid fever, and is the cause of death in six per cent. of fatal cases. It rarely occurs in children, and is twice as common in men as in women. In the treatment of this affection, early laparotomy was reported to have been tried in two cases, but with only one successful result; while of twenty-seven patients with circumscribed peritonitis in typhoid, largely attributed to intestinal perforation, three recovered after incision, seventeen after resolution, and nine after a spontaneous discharge of pus. He recommends that immediate laparotomy be employed for the relief of suspected intestinal perforation in typhoid fever only in the milder cases of this disease. In all others, evidence of a circumscribed peritonitis should be awaited, and might be expected in the course of a few days. Surgical relief of this condition should then be urged as soon as the patient's strength would warrant it.

Dr. Weller van Hook, in a paper on the same subject (*Med.*

(1891), reports three cases of laparotomy for perforation of the stomach. The recovery—a female, aged 31. He states that the operation has been performed nineteen times with a mortality of two of them were doubtful cases of perforation. He concludes his paper by stating that the prognosis for perforation in the course of the disease, and early laparotomy offers the best chance of recovery (though why I cannot say) that the statistics for this condition are strongly in favor of the operation. In the preceding page, in discussing the diagnosis of this condition, it (his) is stated that the prognosis is "very poor." The statistics of the recovery of these cases to nature and the results of the operation, even in the most advanced cases, are very encouraging.

Case of a Child Twenty-two

This operation, which is performed in the case of appendicitis. Fenger, who has managed seven weeks. The results of the operation, and Fitz and Mat- the results of the operation, Fitz found, out- of the operation, occurred after the re-

—Dr. Nicholas Senn

the recent meeting of

Medical Record,

subject into (1) the

pylorus, and (2)

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operation of Heineke-Mickulicz, or the operation of gastro-enterostomy. The operation of pyloro-plasty was the safest and functionally the most efficient for cicatricial stenosis of the pylorus; it not only removes the mechanical obstruction, but at the same time creates a new pylorus. The operation is performed by cutting the anterior wall of the strictured pylorus and extending the incision about an inch towards the stomach and the same distance in the direction of the duodenum. The straight incision in the long axis of the pylorus divides the stricture and the contracted pylorus becomes the posterior wall of the new pylorus by retracting the margins of the wound on each side at the centre with tenacula and suturing in an opposite direction to the incision—that is, transversely to the long axis of the stomach. The new pylorus is made up of tissue taken partly from the anterior wall of the stomach and partly from the duodenum, the posterior wall being composed of the narrow, contracted pylorus. In suturing the wound, it is advisable to tie the sutures from each angle of the wound, tying the central sutures last. Ten rows of sutures, deep and superficial, are employed, the same as in closing a wound of the stomach or intestines. Dr. Senn says recurrence of the stricture is a physical impossibility, as the new pylorus is composed of healthy tissue, and the danger of the operation is not greater than that which accompanies an ordinary intestinal wound of stomach or intestines. Two cases are reported in the paper, both successful, and six others have been done with gratifying results. He also reports thirteen cases of gastro-enterostomy for carcinoma of the pylorus, of which five died from the immediate effects of the operation. He concludes by stating that pylorectomy in the treatment of carcinoma is a justifiable procedure when the disease is limited to the organ primarily affected and the patient's general condition furnishes no contra-indication. Gastro-enterostomy by the aid of large, moist, perforated plates of decalcified bone should be resorted to in the treatment of malignant stenosis of the pylorus as soon as a positive diagnosis can be made and a radical operation is contra-indicated by the local or general condition of the patient.

Case of Combined Pylorotomy and Gastro-Enterostomy for Carcinoma of the Pylorus.—Mr. F. B. Jessett reports a case of this kind with a most successful result. (*Lancet*, Oct. 24th, 1891.) Dr. Bull of New York (as was mentioned in this *Retrospect* at the time) had a successful case of the same kind in the spring of 1890. The operation as performed by Mr. Jessett took only one hour and forty minutes. After cutting through the stomach he immediately sutured it by an internal continuous and an external interrupted suture, and then divided the duodenum and treated it in the same way. The omentum he ligatured off as he would an ovarian pedicle. Then a portion of the upper end of the jejunum was inserted to the stomach parallel to and about an inch from the great curvature by means of Senn's decalcified bone plates.

Radical Cure of Hernia.—Dr. Gustav Kolischer says (*Central. f. Chir.*, No. 45, 1890) that the well attested fact at the present day of comparatively frequent occurrence of relapse following radical operation for the cure of hernia is to be accounted for not only by peculiar predisposition which results from the spermatic cord passing through the inguinal canal, but by the giving away of the cicatricial tissue to the intra-abdominal pressure, and the author proposes to overcome the latter by the following procedure: After the performance of the radical operation in the usual manner, without suturing the pillars, he makes an arch-shaped incision along the lower edge of the symphysis pubis, which incision passes through the periosteum and is prolonged to the insertion of the adductors. The pyramidalis muscle is dissected from the symphysis together with the periosteum, and is thus loosened, with its sheath, from the rectus muscle. A flap of muscle is thus obtained which is turned up over the external ring and fixed by sutures. The author has so far only operated on the cadaver.—(Quoted in *Annals of Surgery*, March 1891.)

Flap-splitting Operation for the Radical Cure of Inguinal Hernia.—Dr. B. E. Hadra, of Galveston, Texas, in an article on the above subject (*N. Y. Medical Record*, Nov. 21st, 1891), says the operation is performed in the following stages:—

(1) Skin incision extending from the outer ring parallel to Poupart's ligament as far as necessary, say 4 to 6 inches.

(2) Exposing the external ring and abdominal fascia over the canal, or freeing them with blunt instruments and finger.

(3) Detaching the contents of the canal from its anterior wall.

(4) Slitting the abdominal wall with knife or scissors or finger in the axis of the canal for three inches, curving the incision somewhat inwards at its upper third.

(5) Attending to sac and testicle; either simply returning contents of former into abdominal cavity or ligating sac above the level of the internal aperture. Should the testicle be diseased or undeveloped, remove it.

(6) Carrying a fine long-bladed knife flatly around the lips of the wound so as to split the adjoining abdominal wall into two layers for the distance of a half to one inch.

(7) Carrying a continuous suture through both raw surfaces in as many longitudinal rows as may be necessary to bring the surfaces well into contact.

(8) The tendinous pillars below and to the sides of the external ring may now also be split and sewn together in the same manner as the canal.

(9) Finally, the wound is closed in the usual way with or without drainage, and dressed with cotton wool fixed in place with iodoform-collodion.

Dr. Hadra says the operation is much simpler than it appears from this description. He cites one case only in which the operation was performed.

Treatment of Hernia by Median Abdominal Section.—At the British Medical Association held at Bournemouth in July, 1891, Mr. Lawson Tait read a paper advocating the reduction and radical cure of all herniæ by abdominal section. (*Brit. Med. Jour.*, Sept. 26th, 1891.) He considered the replacement of protruded viscera by traction from within much safer than by pressure from without. Ordinary adhesions, he stated, are very easily undone by traction. The pieces of omentum that have been removed by traction from their sites of adhesion bleed, but the sites themselves do not bleed. It will only be necessary to examine the ends of the piece of omentum to be sure that everything is satisfactorily accomplished. In some cases, of course,

the sac will have to be opened to undo adhesions, but as experience grows this procedure will necessarily be rarer and rarer, and when the second incision is made the replacement of the gut can take place without enlarging the hernial aperture and the removal of the hernial sac will not be necessary. In cases of incarcerated hernia, any objectionable contents of the sac may be readily cleared out and the condition of the gut accurately ascertained; and if it is necessary to make an artificial anus, the proper place will be the central incision and not the unyielding ring in the groin. Again, incomplete operations will never occur, and no internal strangulation can remain after operation. This is also the best method for the purpose of performing the radical cure. Two common Glover's needles, armed with one piece of salmon silkworm gut, are fastened in some convenient needle-holder at a very slight angle to one another, so that their points completely coincide, and can be made to enter through one hole in the skin. The left forefinger covers or occupies the inner aperture of the sac. The needles are made to enter from without, and are then separated; the outer needle is made to dip deeply into the outer pillar of the ring, and the inner needle similarly into the inner pillar. The needles are then pulled out through the central incision, and as many sutures as are thought desirable are inserted in this way. When the insertion of stitches is completed, they can be tied from within and cut short. The abdominal wound is then closed and the operation is over. Mr. Tait says he has permanently cured many inguinal and crural herniæ in this manner.

The majority of speakers who discussed the paper seemed to think that the abdominal method was only suited to special cases, and many of them narrated cases where the bowel could not be reduced by traction from within.

Dr. Maunsell of Dunedin, N.Z., stated that he had performed this operation for some years with the most satisfactory results, and that when any difficulty occurred in the reduction of the bowel he used an instrument like a button-hook, which stretched the constricting structures from within. His paper, which is illustrated, is published in the same number of the *Brit. Medical*

Journal (Sept. 26th, 1891), and is well worth reading. See also papers—

(1) On the Radical Cure of Hernia, with especial reference to certain methods of operating, by W. H. Bennett, F.R.C.S. (*Lancet*, Sept. 12th, 19th, 1891.)

(2) A Series of Hernia Cases, by Herbert Allingham, F.R.C.S. (*Lancet*, Oct. 17th, 1891.)

(3) Statistics of Eighty-five Operations for Strangulated Hernia in Hospital Practice, by F. A. Southam, M.B., F.R.C.S. (*Lancet*, Nov. 28th, 1891.)

Prolapse of the Rectum.—Dr. Verneuil (*Bull. et Mem. de la Soc. de Chirurg. de Paris*, T. xv, p. 154), after the reposition of the prolapsed bowel, with the patient in the lithotomy position, makes two incisions 4–5 cm. in length at right angles to the long axis of the anus in an outward direction. From the point where these incisions end two other incisions are made so as to meet each other at the coccyx, thus making a triangular flap with its base forwards. This triangular flap is loosened from behind forward and left temporarily attached to the tissues surrounding the anus; this flap is strongly retracted with blunt retractors and the posterior wall of the rectum loosened as high up as the point of the coccyx. Four threads are now passed transversely through the posterior rectal wall parallel with one another and not including the rectal mucous membrane. The upper one of these sutures is placed at a point in close relation with the tip of the coccyx, while the lower one is some 15 mm. distant from the anus. These threads are now passed through the skin, the upper one as high up as the sacro-coccygeal joint and the lower one on a level with the tip of the coccyx. Then on each side of the median line the first and second threads are tied together over rolls of iodoform gauze, and then the third and fourth tied in a similar way. The rectum is thus dragged up and fixed in a new position higher up. The triangular flap is now removed and the wound closed with sutures.

A New View of the Pathology of Fissured Anus and the Treatment Based Thereon.—Such is the title of a paper read by Mr. Chas. B. Ball at the last meeting of the British Medical

Association (*British Medical Journal*, Sept. 12, 1891). The author believes that what happens is this: During the passage of a motion one of the so-called valves of the rectal follicles or sinuses is caught by some projection in the faecal mass and its lateral attachments are torn. At each subsequent motion the sore thus made is reopened and possibly extended, and this repeated interference with the process of healing ends in the production of an ulcer, the torn valve becomes swollen and cedematous, constituting the so-called pile. Mr. Ball goes on to say that the only thing necessary to cure this painful condition of affairs is to excise the tag of torn-down valve. If this be done the case will get rapidly well without either dilatation or incision of the sphincter. He instances cases in which this treatment was perfectly successful.

Statistics of Operations for Cancer of the Rectum. (*Deutsch. Zeit. f. Chir.*, xxii, 1891.)—These statistics are published by Dr. Arndt, and consist of cases operated on by Prof. Kocher of Berne. The cases are 35 in number, with 10 deaths (28.35 p.c.). Five of the deaths were due to causes in no way connected with the operation; deducting these the mortality would only be 14.29 per cent. He has collected 230 cases from all sources with 28 deaths (12.17 p.c.). This small degree of mortality is most encouraging. The most frequent cause of death is suppurative peritonitis from wounding of the peritoneum, though wounding of the peritoneum is not necessarily a fatal procedure, as in 69 cases of wound of that structure collected by the author only 9 died. Immediate suture or tamponading with iodoform gauze will usually render the accident of wounding the peritoneum harmless. Another source of trouble in the operation is the contamination of the field of operation by the faeces, and to avoid this some surgeons first perform a preliminary colotomy, with in reality but little benefit. Hemorrhage is another danger, but this is easily controlled when the bowel is exposed from behind, as in the operation performed by Prof. Kocher. In 36 per cent. of the cases reported the cure was permanent, for 9 out of 25 cases remained free from return of the cancer after four years. —(Quoted in *La Semaine Médicale*, No. 51, 1891.)

There is an interesting article by Dr. Chas. B. Kelsey in the *N. Y. Med. Record*, Sept. 12, 1891, which is too long to quote. It is entitled *An Analysis of 750 Cases of Rectal Disease in Private Practice*, and is well worth perusal.

Surgery of the Lung.—Dr. Tuffier has published an interesting clinical lecture on *Resection of the Apex of the Lung* (*La Semaine Médicale*, Mai 16, 1891.) He performed the operation for tuberculosis limited to the apex. Previously the author had experimented on animals to ascertain the feasibility of the operation. Being convinced that it could be done, he proceeded to operate on his patient, a young man aged 25, with localized tuberculous disease of the right apex. An incision was made in the second intercostal space; after incising and holding aside the great pectoral muscle, the parietal pleura was reached, and now commenced the difficult task of detaching it. The upper part was freed with ease, but below, in parts, it was torn and air was heard whistling; these flaws were stopped with iodoform gauze, and after the rest of the pleura was freed the finger was introduced and the summit of the lung explored. The finger was placed behind the apex and pushed forwards, the lung being at the same time seized with a pair of forceps specially constructed to seize friable tissue, and drawn out through a hole torn in the parietal pleura, which formed a collar round the protruded lung. There were no adhesions between the two layers of pleura, and the surface of the lung appeared healthy, but an induration the size of a large hazel-nut was felt in the portion of lung withdrawn. A silk ligature was now thrown round the protruded lung beyond the forceps, and the portion of lung removed. The pedicle was fixed to the periosteum on the inner surface of the second rib and the various structures in the wound united by sutures, closing the wound completely and applying over all iodoform dressings. The dressings were not removed for six days, when union was found to be complete. The patient recovered rapidly, and when he was exhibited to the Surgical Society there was good resonance over the lung, and the patient was discharged cured. The portion of lung removed was examined by Prof. Cornil, and in it was found a tuberculous mass the

size of a hazel-nut, without having any cavity in it. Around the margin were disseminated tubercles. The bacilli of tubercle were easily demonstrated.

Surgical Treatment of Pulmonary Cavities.—At the recent Congress of Tuberculosis, M. Poirier (*La Semaine Médicale*, August, 1891) read a paper on the above subject. The first case recorded was the result of an accident. In a duel fought in 1679 the sword of one of the combatants passed through his antagonist's lung and opened a pulmonary cavity; the surgeon utilized the wound for the direct treatment of the cavity and the patient recovered. In conjunction with M. Jonnesco, M. Poirier has collected all the available statistics, of which the following is the summary: Of 29 cases of incision of tuberculous cavities with resection of ribs, improvement took place in 15, cure resulted in 4, and in 9 the result was negative. In 19 cases the disease was situated in the apex. These authors conclude that the best way of reaching the upper part of the lung is by making an incision with a thermo-cautery 4 cm. below the sterno-costal notch, from the middle line of the sternum outwards for 9 cm. in a direction parallel to the first intercostal space. In this the pectoralis major, which is usually much thinned, is reached, and by enlarging one of the spaces between the fasciculi the plane of the intercostal muscles is reached; this is divided and the pleura exposed. If there are no adhesions, it is better to establish them before proceeding further; but if there is a cavity, adhesions are always present. It is easy to strike the cavity through the adhesions, though a certain thickness of pulmonary tissue has often to be traversed for the purpose. As cavities are generally situated quite in the upper part of the lung, the first intercostal space is at a distinctly lower level than the cavity; the point of the instrument is then carried from below upwards and from before backwards. When the cavity lies towards the back, the spinous process of the seventh cervical vertebra should be sought for; an incision is made outwards from this point towards the scapula, the trapezius and rhomboideus are divided, and the first intercostal space, which is narrower behind, is reached. Resection of the rib may be necessary. M. Poirier does not appear to

have operated himself on the living, his deductions having been made from operations on dead bodies.—(Quoted in *Supplement of British Medical Journal*, Sept. 19, 1891.)

Treatment of Fractures.—At the meeting of the London Medical Society held Oct. 19, 1891, Mr. Mansell Moullin read a paper on *The Treatment of Compound Fractures in Joints by means of Corrosive Sublimate Solution*. If the accident is recent and the wound clean the strength of the solution should be 1–10,000, with a few drops of hydrochloric acid added, and two hours submersion morning and evening is sufficient. If, on the other hand, the injured part is foul and some time had elapsed, and inflammation had already set in, the bath should be continuous night and day for forty-eight hours, and the strength should be 1 in 1000 for the first two hours. Mr. Moullin had treated some thirty cases in this way with the most satisfactory results.

Dr. Stephen Smith of New York publishes a paper *On the Results of Treatment of Simple Fracture of the Shaft of the Femur*, in which the following conclusions (*Med. News*, Sept. 26th, 1891) are come to as to when a satisfactory result has been obtained in fracture of the shaft of the femur :—

- (1) That firm bony union exists.
- (2) That the long axis of the lower fragment is either directly continuous with that of the upper or the axes are on nearly parallel lines, thus preventing angular deformity.
- (3) That the anterior surface of the lower fragment maintains nearly its normal relation to the plane of the upper fragment, thus preventing undue deviation of the foot from its normal position.
- (4) That the length of the limb is either exactly equal to that of its fellow or the degree of shortening falls within the limits found to exist in 90 per cent. of healthy limbs, viz., from one-eighth of an inch to one inch.
- (5) That lameness, if present, is not due to more than one inch shortening.
- (6) That the conditions attending treatment prevent other results than those obtained.

These are really the conclusions come to by a committee of the American Surgical Association, of which Dr. Smith was chairman.

Stites Test for Carcinoma.—This test, as detailed by Prof. Chiene of Edinburgh, is reported by Dr. J. H. Brinton (*Phila. Med. News*, Oct. 31, 1891). Excise the mamma and wash it thoroughly in water to remove the blood, then place the extirpated mamma in a five per cent. solution of nitric acid for ten minutes, and then wash in cold water for five minutes; then place in methylated spirits for two or three minutes. By the time this has been done by an assistant the operation has been completed, and on examining the mamma it will be found that the diseased or cancerous portion has a dull white appearance like the eye of a boiled fish; the healthy structures are translucent. In this way it can be told if all the diseased structures have been removed, for if divided at any point the dull white disease can be seen on the cut edge of the removed breast. Of course one must be careful to fix, before removing the breast, its relation to surrounding parts, and this can be done by notching with a knife.



Correspondence.

PATAGONES, PROV. DE BUENOS AYRES,
ARGENT. REPUB.,

13th June, 1891.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

GENTLEMEN,—As a graduate of old McGill, I feel sure you will give this communication a place in your monthly JOURNAL. I write it for the benefit of all those who may be in similar positions or have similar cases ; also, to give my old school-mates and professors some idea of a graduate's work in South America. My first case is one in which I tied the common carotid for a wound in the external.

On October 9th, about 7 P.M., I was called from my dinner, and on going to the door found a policeman mounted and leading another horse by his side. He saluted, and said "that a man had been wounded and was bleeding to death, would I come at once?" Entering my office, I took my pocket surgical case, bandages, sublimate gauze, cotton-wool and tablets, which last, by the way, I brought from Montreal. We had to ride about a mile and a half, and by the time the house was reached it was quite dark. On entering the house I saw, by the aid of a tallow candle, a room about 12×14, brick floor, three or four Indians, women and men, and in a corner a man lying on a camp saddle or "recado" as they are called. The room contained no furniture whatever. The man proved to be an Indian fully six feet tall and probably 200 lbs. weight—a fine built fellow. His head was wrapped in cotton rags, saturated with blood, and certainly not antiseptic. I was told, on inquiring, that he had been stabbed by another Indian about an hour before. Kneeling beside him I found him insensible, and on feeling his pulse was unable to count it. On putting my ear to his chest, I could hear the heart beating slowly and very feebly. Turning to the policeman I told him to gallop to the nearest shop and get a bottle of brandy ; in the meanwhile I took off the dirty cotton rags which swathed his head and saw a wound extending from

the middle of the left cheek to a point a little below the lower lobe of the ear on the same side, evidently deep, as it lay open fully an inch in the middle, filled with clot and cobwebs. A little blood was still oozing from it. Making a solution of bichlor. in an old tin ("preserved meat can"), I began to wash away the clots and debris which filled the wound. During all this time the man was sinking rapidly until just as the policeman arrived with the brandy his breathing stopped altogether. Taking a piece of cotton wool I wrapped it in a bit of gauze and told the policeman to hold it tight in the wound while I resorted to my old friend the hypodermic syringe. I injected six syringe-fulls of pure brandy as quickly as possible—one in the quadriceps extensor of each leg, one in the biceps of each arm, and one in each great pectoral muscle. I then began artificial respiration, as taught by Dr. Roddick, and in about two minutes was pleased to see the dead alive again; in another two minutes he had recovered consciousness, greatly to the surprise of his Indian friends, who had thought him dead for the last ten minutes. I now gave him brandy and water by the mouth and again examined the wound. On removing the balance of clots I discovered that a large artery was wounded, and from its position came to the conclusion that it was the external carotid. On digital examination, my first finger went fully an inch and a half deep in the wound, just behind the jaw-bone, and about half an inch below the left ear. What was to be done? Pressure stopped the bleeding. I felt sure the carotid was cut, and also sure I could not tie it in the wound, nor yet enlarge the wound sufficiently to tie it there. Tie the common carotid! I thought of it, but was alone—in a house without as much as a bed—surrounded by ignorant people whose language at that time I scarcely knew at all. However, after considering a moment, I could think of nothing else to be done, so calling the policeman I made him hold my compress firmly in the wound, and, after getting the consent of friends, I started to tie the common carotid.

Gentlemen, I once or twice tied the common carotid for pleasure in McGill College dissecting-room. I *happened* to be



in the lecture-room when Dr. Fenwick tied it before the class of '90 ; but let me assure those who have never tied it in the living that it is " not the same "—more especially when you have your patient on a brick floor, your assistants a policeman, your light a tallow " dip " in the hands of a nervous woman, to whom you cannot speak on account of not knowing her language perfectly, with no instruments except your pocket case, and that without an aneurism needle. Well, I made my incision over the line of the artery and dissected down till I came to it, always judging its position by its pulsation ; opened its sheath, and having neither blunt tenaculum nor aneurism needle, I picked it up with a pair of artery forceps (Pean's) and was pleased to find that on removing clots and compress the bleeding had stopped. Now to get a ligature around it. I bent my grooved director so as to let it pass beneath the artery, and then passed the blunt end of a large needle, threaded with a stout piece of silk, along the groove of the director. On letting go the forceps blood again came from the wound, so I felt sure I was right, and tied my silk, leaving a piece to extend out of the wound. Both wounds were then washed out and stitched up, dressed with sublimate gauze and cotton, and left alone for a week, when I removed the stitches, both healing by first intention. The thread of silk which came from the artery was pulled off on the tenth day by patient. The day following the operation had slight rise of temperature, which fell at once on giving grs. x of antipyrin. On the eleventh day went to work as ox-driver, feeling, as he said, perfectly well.

To those who have not tried tying this artery, I would like to remind them of one thing which struck me during the operation, viz., that I did not see all those structures which are mentioned as being seen in Grey's Anatomy, nor yet nearly all. Perhaps a better anatomist than myself would have done so, but the artery was tied, the man lives, and still I know not what I was cutting. Needless to say, under like circumstances, I do not want to tie another carotid. Did I do right in tying ? What else might I have done ?

My other case is perhaps more interesting, and to me more a

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ance of brandy were taken to keep up strength. On Dec. 12th I removed from wound in back three spiculæ of bone, which I think were from the body of 6th dorsal vertebra. On Dec. 15th I made a counter opening in axillary region, between 7th and 8th ribs, drawing off about a pint of pus. Soon after, wound in back healed, and on Dec. 25th bullet wound in front had closed. Patient at this time was very weak and almost a skeleton. Wound below—*i.e.*, counter opening—still continued to run, but with quantity much diminished and patient gaining strength. Expectoration and cough were also much improved. I now began to have some hopes of a recovery which up to this time the man himself had alone thought of, every one else who saw him expecting him to die. And well they might, for at each respiration the noise of the pus drawn in and out of the wound, the putrid condition of the pus, the skeleton-like visage of the man—all went to make this belief almost a certainty. The condition of the lung itself, on auscultation and percussion, resembled that found in advanced phthisis or emphysema, large bubbling râles being heard nearly all over the lung. On January 2nd I left Patagones for a trip up river, and eventually journed through Chila. On my return about a month ago I found Tomé engaged in a small business, and had him come to my office, where I elicited the following: Counter opening soon closed after my departure, and he got up. Cough and expectoration continued, but gradually decreased. About the middle of January the wound in front, closed before, now opened and ran freely for a few days, then closed till about the last of February, when it opened again and again discharged for a few days. Cough and expectoration have continued right along, but for last fortnight only in mornings. Says he feels as strong as ever, and is fatter and stouter than before he shot himself. He continued both the creasote and cough mixture up to about a month ago, when both cough and expectoration being better, he stopped them. I examined his chest and found, as might be expected, several cavities, which on percussion gave a hyperresonant note, and in other parts of lung an abnormally dull note. Râles are heard in front, but not so marked as in the axilla and behind.

I would call them "large moist râles." Expansion is diminished on right side. All wounds perfectly healed, and in my opinion will not open again, as they are thoroughly cicatrized. I cautioned him against exposure or heavy work, and told him I wished a photograph of the wounds, which he has promised to have taken.

It would please me very much if some of my readers, older and more learned than myself, would comment on and point out what might have been done, also what is to be done should my patient contract a pleuritis, pneumonia, or the present emphysematous condition get worse?

Besides these two particular cases, I have had upwards of forty knife wounds, all of which I dressed with sublimate gauze after thoroughly cleansing and stitching with catgut. In only one did I have suppuration. Of bullet wounds in private practice, I have only seen the one above reported, as the "Sauchers" prefer a knife to any firearm. During my term in the hospital in Buenos Ayres I saw a number of bullet wounds, and perhaps will some day report them, but at present must stop or I will be taking up too much space in your valuable JOURNAL.

To my late teachers and fellow-students I wish good health and good luck, while remaining, as always, their fellow-worker.

F. G. CORBIN, M.D.C.M. (McGill, '90).

Reviews and Notices of Books.

Massage and the Original Swedish Movements.

Their Application to various Diseases of the Body. Lectures before the Training Schools for Nurses connected with the Hospital of the University of Pennsylvania, German Hospital, Woman's Hospital, Philadelphia Lying-in Charity Hospital, and the Kensington Hospital for Women of Philadelphia. By KURRE W. OSTROM, from the Royal University of Upsala, Sweden; Instructor in Massage and Swedish Movements in the Philadelphia Polyclinic and College for Graduates in Medicine. Second edition, enlarged, with eighty-seven illustrations. Published by P. Blakiston, Son & Co., 1012 Walnut Street, Philadelphia. 1891.

The first part of this work gives a short, concise and well-illustrated description of the different methods of performing massage, mentioning also its contraindications. The second part takes up the Swedish movement cure of Ling, and gives a representative set of movements to act on the different regions of the body. In a chapter on the physiology of the movement treatment he speaks of walking as an exercise which, "though better than none, is often over-estimated." This is an opinion that is gaining ground with many who give thought to the subject of exercise. Comparatively few muscles are employed in ordinary walking, where the leg swings forward pendulum-like and with but little muscular effort; the muscles of the back, on the contrary, are in a constant state of tension, and it is a physiological law that there must be alternate contraction and relaxation to cause elimination of waste products. The author rightly attributes the benefit of walking almost wholly to fresh air.

The treatment of special diseases is taken up in detail, with sample prescriptions of movements, that for habitual constipation being especially good.

In a chapter on Massage Treatment in America, reference is made to the ignorance of the average "rubber," and a suggestion is made that the medical profession take control of this

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Age of the Domestic Animals. Being a complete Treatise on the Dentition of the Horse, Ox, Sheep, Hog and Dog, and on the various other means of Determining the Age of these Animals. By RUSH SHIPPEN HUIDEKOPER, M.D. Illustrated with 200 engravings; 200 pp., 8vo. Philadelphia and London: F. A. Davis, publisher. 1891.

We thoroughly agree with Prof. Huidekoper that there is an undesirable dearth of practical books on the domestic animals, at all events good ones based on a scientific foundation. In this and in comparative pathology there is a wide field to be tilled and a great want to be met. Perhaps the want is not so keenly felt as it should be. In fact, we fear that the veterinary profession has not yet been aroused to a due sense of its great importance, and we scarcely expect this till the professions of human and that of comparative medicine come more closely together.

The present work will be very useful to both lay and professional readers, and supplies one of the many needs of the veterinary profession. The author does not pretend to much originality, a minor matter in this case; and no doubt in the next edition this will be improved and also the make-up of the book, which, though fair, is not all that can be desired, though probably all that could be provided at the price. It is a great advantage for any one, lay or professional, to find what he wants in a single book; especially is this so with busy men who have little time for research. This is a work that we can recommend to all who are practically interested in the domestic animals, whether professionally or not.

W. M.

Traite Pratique de Matière Médicale Therapeutique et de Toxicologie. Par H. E. DESROSNIERS, M.D., Professeur de Therapeutique à l'Université Laval, Professeur de Matière Médicale au Collège de Pharmacie de Montréal, Médecin de l'Hôpital Notre Dame. Montréal: J. M. Valois, Libraire-Editeur. 1892.

We heartily welcome this the first work of any importance in medicine published in the French language in Canada. The reasons for its appearance are much stronger than can be ad-

vanced for a number of recent works on the same subject published in English. As many French physicians and students are not thoroughly conversant with English, it is but natural that they will gladly welcome this volume, and prefer it to works on the same subject edited in France. As the English system of weights and measures are only legal in Canada, it follows that there is always a great inconvenience experienced by both practitioners and pharmacists in converting the metric system of France into the English equivalent. The plan adopted by the author is the one commonly followed by most authors of recognized works on *materia medica* and therapeutics. We have first a description of the channels through and by which agents reach the blood, the changes they undergo in the organism, and the channels through which they leave it. About forty pages are devoted to the physiological classification of medicinal agents. The bulk of the work is taken up with a description of drugs considered alphabetically. We have to congratulate the learned author on the clearness, conciseness and accuracy which he displays in this really difficult field. To fairly present to his readers a just and accurate account of the state of pharmacology and therapeutics of the present day is a most difficult task for any author to accomplish. It requires great knowledge of his subject and of the wants and aims of both students and practitioners. The literature of the present time teems with articles innumerable on this subject: few are good, the vast majority are trashy beyond consideration. Unfortunately an author has to wade through all this mass, be it good or bad, and frequently great care is necessary to prevent his pages from being overloaded with worse than nonsense. The author, however, has, as far as we can judge, been very judicious in his selections. Naturally the references to French literature and authors holds a prominent place, but, unlike French authors in general, Dr. Desrosiers has not forgotten that much that is valuable and permanent in this subject has been contributed by physicians not residing in France. We conclude by congratulating both authors and publishers in having produced a work that will redound to the credit of the country.

Diphtheria: its Natural History and Prevention.

Being the Mibroy Lectures delivered before the Royal College of Physicians of London, 1891. By R. THORNE THORNE, M.B. London: MacMillan & Co. 1891.

Diphtheria, a disease of such general interest, has in this volume been ably treated by the author from the standpoint of its natural history and prevention. In detail, the subject has been dealt with under the following heads: The researches of original investigators; statistical enquiries—which are very extensive; the nature of the disease under consideration; the relation of scarlet fever to diphtheria and the relation of faulty sanitary circumstances to this disease; and the predisposing influence of season, sex, age, etc. Milk, as a vehicle of disease and the diffusion of diphtheria through its agency, has been carefully considered. Methods of prevention, namely, isolation in hospitals and in dwellings; school restriction and school closure; exclusion of scholars; the disinfection of dwellings, clothing, sputa, etc., are thoroughly discussed in chapter V. The results of these investigations are well summarized at the end of the work. For a complete resumé of the subject of the natural history and the prevention of diphtheria this work stands alone; and those seeking information upon these points will be amply repaid by a perusal of this volume.

A Treatise on Practical Anatomy for Students of Anatomy and Surgery. By HENRY C. BOENNING, M.D., Lecturer on Anatomy in the Philadelphia School of Anatomy, etc. Philadelphia: F. A. Davis.

We fear the author of this work has not succeeded in presenting anything of value to the student of anatomy. The various sections are discussed under the heads of bones, joints, ligaments, etc., so that the work is rendered useless as a dissector's guide; and the individual sections are so imperfectly treated as to give them no value for reference as a text-book. The muscular system is arranged in tabular form under the stereotyped heads of origin, insertion and nerve supply. That it is of any importance to recognize their action or their relation to other

structures does not seem to have even dawned on the author's horizon. On turning to the description of the viscera, all we find about the position of the kidney is that it lies between the iliac crest and the last rib, information which the average outdoor patient could probably supply with rather more accuracy. Several pages are devoted to the histology of this organ, and this is only an example of how unevenly the work is divided. Almost all the figures are borrowed from one or other of the standard works, and are unacknowledged. The printing and binding leave nothing to be desired, and we can only regret our inability to bestow the same praise on the text.

Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania.

By R. C. NORRIS, M.D. Second edition. Philadelphia : W. B. Saunders. 1891.

This syllabus of Professor Hirst's lectures has been prepared for the use of his class to meet the difficulty of accurate note-taking, so trying to most students. It is not a cram-book, and can only be of service to one who has carefully followed the course of lectures or is well up in the subject. It would be of service to teachers or to advanced students preparing for examination. The book is well got up, and interleaved so that it may serve as a note-book in a class.

The Johns Hopkins Hospital Reports. Report in Pathology. Amœbic Dysentery. By WM. T. COUNCILMAN, M.D., and HENRI A. LAFLEUR, M.D. Baltimore, December, 1891.

The term dysentery has been applied to so many widely different affections of the intestines that a classification on an ætiological basis must be welcomed as a marked advance in our knowledge of this disease. In this article the authors make a very strong case for the amœba as the exciting cause of a class of cases occurring endemically and identical with tropical dysentery. The work is based on a study of some fifteen cases occurring in the Johns Hopkins Hospital. Amœbæ were con-

stantly present in the stools, often in enormous numbers, and were also found in the contents of hepatic and hepato-pulmonary abscesses and sputum during life. Clinically the cases were characterised by some muscular weakness, a dry, sallow skin, anæmia, normal or slightly elevated temperature, a somewhat increased pulse rate, characteristic stools, tenesmus and usually a retracted abdomen. Pathologically the cases correspond to those described by Fagge as catarrhal dysentery, the large intestine being thickened, frequently adherent in chronic cases, and marked by gelatinous infiltration and nodular elevation of mucosa and submucosa, and later, ulcers characterised by marked undermining of their edges. Abscess of the liver was also of frequent occurrence. The absence of the amœba is also pointed out in various forms of ulcerative colitis, and diphtheritic dysentery is also looked upon as a distinct affection and not due to the amœba, although no very definite evidence of this is presented.

The intestinal lesions have been carefully studied by sections, and amœbæ found present in the gelatinous infiltrations and in the base of the ulcers, chiefly in the submucosa. The authors deny the usually received view that the disease begins in the solitary follicles, which were either normal or affected secondarily by extension of ulceration. The view adopted is that the amœbæ enter the intestine, probably by drinking water, penetrate the mucosa, and on reaching the submucosa set up necrosis and softening, accompanied by gelatinous swelling and followed by ulceration. The small intestine it not affected, as the amœbæ only thrive in alkaline media.

In the hepatic abscesses pus cells were remarkable by their scarcity, the fluid being often very viscid and containing a good deal of fatty and granular material. Another remarkable change noted was necrosis of the liver cells about the central veins, not only in the neighbourhood of the abscesses, but diffused through the liver. A suggestion is thrown out that the changes in the liver after residence in the tropics may be of this nature.

Pus-producing cocci and other forms of bacteria were present in some cases, but not in all. Certain cocci produce inflammatory infiltration of the base of the ulcers and in the tissues in

which they are found. In cases in which they are absent these changes are not found, although the peculiar necrotic and gelatinous changes are present.

The conclusions of the authors are :—

(1) Amoebic dysentery is a form which ætiologically, clinically and anatomically should be regarded as a distinct disease.

(2) *a.* The amoebæ dysentericæ has been shown to be the causative agent from its constant presence in the stools and in the anatomical lesions, and also from inoculation experiments of Kartullis (in dogs). *b.* Clinically the disease is characterised by the presence of amoebæ in the stools, which in addition present physical characters different from those seen in the stools of other forms of dysentery, as noted above ; by a variable onset, course and duration of which the special features are periods of intermission alternating with exacerbations ; and by a marked tendency to chronicity, with the production of a greater or less degree of anæmia. *c.* Anatomically the disease is characterised by the production of ulcers in the colon which generally differ from those found in any other form of dysentery. The ulcer is produced by infiltration of the submucous tissue and necrosis of the overlying mucous membrane, the ulcer in consequence having the undermined form. Frequently, in addition to the ulcers, there is infiltration of the submucous tissue without ulceration. In all of the lesions, unless complicated by the action of bacteria, there is absence of the products of purulent inflammation.

(3) Abscess of the liver, with or without involvement of the lung, is a frequent complication, much more so than in any other form of dysentery. The involvement of the lung may early follow hepatic involvement, and be detected by the occurrence of amoebæ in the sputum before there is evidence of liver abscess. These abscesses differ in their anatomical features from those produced by other causes. The chief difference is found in the absence of purulent inflammation, the abscess being caused by necrosis, softening, and liquefaction of the tissue. In these liver abscesses the amoebæ are not associated with any other organisms.

(4) The disease is widely distributed, and is found in most countries in Europe, in most parts of the United States, and in the tropics everywhere.

(5) This is the form of dysentery which has been commonly called tropical dysentery.

A bibliography and a summary of the views of various authors on dysentery is included, and the whole article forms a very complete and lucid exposition of the clinical and pathological features of the disease. The anatomical processes are illustrated by several beautiful plates.

Annual Report of the State Board of Health of Massachusetts.

The very valuable series of publications issued by the Massachusetts State Board of Health in the interests of State Medicine is represented in the present volume by a report of more than ordinary interest. A discussion of the water supply is given great prominence. Since 1874 this important question has been presented with great thoroughness, and the yearly examinations are made to include cities and towns, as well as all possible sources of supply throughout the State. Of scarcely less interest are the official reports upon Food and Drug Inspection, Health of Towns, the Growth of Children studied by Gatten's Method of Percentile Grades, and a Summary of Weekly Mortality Reports. The thorough and systematic work represented in these publications might be advantageously prosecuted in other communities.

The PRESIDENT asked if a tumour of that size and in that position had ever been removed before.

DR. SHEPHERD, in answer, said that an almost identical case was figured in Bryant's Surgery.

Friedreich's Disease.—DR. JAS. STEWART presented a well-marked case of Friedreich's disease or family ataxia. The patient, a young man aged 21, a native of Portage-du-Fort, Que., is one of a family of six, consisting of three sisters, all of whom are similarly affected, and two brothers, who are perfectly well. His mother is alive and well. His father, who died at the age of 50, had some difficulty in walking, but it is very doubtful if he suffered from this disease. The symptoms first appeared at the age of six, and have recently become more marked. There is ataxia not only of the lower but of the upper extremities; the muscles of the tongue are also affected, the speech being syllabic; knee-jerks are absent. He has talipes equino-varus and curvature of the spine. There is an absence of nystagmus and other eye symptoms, bladder and sensory symptoms which serves to distinguish this disease from Tabes. The disease is due to a lessened or shortened indurance of certain tracks of the spinal cord. The postero-internal columns become degenerated early and very markedly.

Speaking of the occurrence of the disease, Dr. Stewart said that this case (including the three sisters) is the one hundred and eightieth that has been reported, by far the larger number being from America. It is also a noticeable fact that a great proportion of the cases reported in America are females.

DR. MILLS cited a comparative case. A bitch had ataxic symptoms of the hind legs, hyperæsthesia, and some weakness of the urinary apparatus. Whether these symptoms were from loss of power or true ataxia it was difficult to determine. She died, and at the autopsy the brain and spinal cord were found a good deal injected, but no appearances to account for the symptoms. Ataxia is not very common in dogs, but fairly common in the horse. Dr. Mills also related some comparative cases of tumours. The first, a black and tan terrier, had a large tumour in the mammary gland which proved to be an adenoma, a form

very common in dogs, and which usually kills them. The second case was a black and tan bitch, aged 14 years. A tumour had been removed from her neck some time ago. Three weeks ago Dr. Mills saw her again ; this time he found a large, rapidly-growing tumour low down in the mammary region and weighing one-sixth of the weight of the dog. She failed rapidly and died before an operation could be performed.

Total Extirpation of a Pregnant Uterus for Cancer of the Cervix.—DR. WM. GARDNER exhibited the uterus and ovaries of a pregnant woman, aged 26, and gave the following history of the case :—

L. C. came to the out-patient clinic of the Montreal General Hospital complaining of repeated hemorrhages during the previous ten days. She had borne an illegitimate child several years previous. She had been married a few months, and was now pregnant four months. On examination, there were all the physical signs of pregnancy and unmistakable cancer of the vaginal portion of the cervix, extending to the adjacent roof of the vagina and infiltrating the supra-vaginal portion. The patient was admitted to the gynæcological ward and examined by Drs. Alloway, J. Chalmers Cameron, and Armstrong, who each agreed in the diagnosis and in the propriety of a radical operation. The condition and prospects being explained to the patient, she consented to the operation. The procedure was as follows : The abdominal wall and vagina were thoroughly washed with soap and warm water, then with peroxide of hydrogen, and finally with 1-1000 sublimate solution. The abdomen was then opened, the uterus turned out, and the broad ligaments tied off outside the ovaries with strong catgut, as low as possible ; an Esmarch was firmly applied around the cervix as low as possible, the uterus incised, the foetus extracted, and then the uterus amputated. The cervical canal was then cauterized with Paquelin's cautery. The extirpation of the cervix was effected by tying and cutting the broad ligaments as low as possible ; Eastman's grooved staff was then introduced within the vagina and made to project the floor of Douglas' pouch. An incision with a scalpel easily opened the vaginal roof. The subsequent steps of the operation were

the tying and separation of the vaginal attachments of the uterus by means of a curved needle held in the jaws of a needle-holder guided by the left index finger, passed through the opening leading to the vagina. The separation of the bladder was easy. Catgut was used for all but the last ligatures, which were strong braided silk. The catgut ligatures were cut short, but those of silk were left long and turned into the vagina. The vaginal vault was loosely closed by three catgut sutures. The operation was completed by washing out the abdominal cavity, the insertion of a drainage-tube and the closure of the abdominal wound as in ordinary ovariectomy, and finally by tamponing the vagina loosely with iodoform gauze. The drainage tube was removed in twenty-four hours. Recovery was smooth and rapid, the patient leaving the hospital in less than four weeks. The operation was done in the Trendelenburg position, which greatly facilitated the numerous manipulations.

DR. ALLOWAY was associated with Dr. Gardner at the operation, and considered that the most difficult part in the technique was the last, that of the removal of the cervix. Great care had to be taken to escape the bladder while at the same time get as much diseased tissue as possible inside the ligatures. He felt that a more rapid and safe procedure would be to attack the cervix through the vagina.

DR. SHEPHERD asked if a microscopic examination of the growth had been made before the operation.

The PRESIDENT asked if it was not strange that a woman in this condition should become pregnant.

DR. GARDNER, in reply, said that no microscopical examination had been made. But it would not have altered his decision even if such an examination had been doubtful, for the clinical features were so well marked. In answer to Dr. Buller, he said that the disease had probably grown very rapidly since impregnation owing to hyperæmia.

A Warty Growth of the Anus.—DR. JAMES BELL exhibited a photograph of a warty growth surrounding the anus of a young man of 20. It had first appeared five months ago as one small wart. It had increased rapidly, and was limited to the edge of

the anus, there being no extension into the rectum. In character it is identical with the growths of venereal warts found on the corona in the male and the labia in the female. Such a condition, in a male and apart from extension from the genital organs, was, in Dr. Bell's experience, unique, and, as far as he could find out, there was no special reason for its appearance. It was removed by the cautery.

A Case of Umbilical Fæcal Fistula in an Infant; Cured by Operation.—DR. SHEPHERD read the notes of this case. A male infant, aged three months, had a projection about an inch long at the umbilicus which was red and moist, looking very much like everted mucous membrane. In the centre of this projection there was an opening from which liquid fæces escaped, and into which a probe could be easily introduced. The abdomen was opened and the fistula was found to be due to a diverticulum from the ileum (Meckel's diverticulum), which had remained patent in the umbilical cord and had been cut through when the ligature came away a few days after birth. The projecting portion of the bowel was removed and the opening in the intestine closed by a double row of continuous sutures,—the deep row passed through the muscular and mucous coats, and the superficial row through the peritoneal coat only, after the manner of a Lembert suture. The infant made a complete recovery, and when last heard of was well and strong.

Salpingitis and Pyosalpinx.—DR. ARMSTRONG then read a paper on this subject. (See page 493.)

Discussion.—DR. W. GARDNER agreed with all that the reader of the paper had said. The danger of delay in such cases is obvious. He had seen the last case mentioned in consultation, and as her symptoms had improved he advised delay. Those who see many of these cases come across some which have all the symptoms and physical signs of the disease which recover and remain well for years, while others with exactly the same symptoms do badly. It is a very difficult question to know exactly what to do; and for this reason he sounded a note of warning against the too frequent resort to surgical treatment.

DR. ALLOWAY spoke of the extreme difficulty of diagnosing

salpingitis beforehand, of determining whether the patient has pus-tubes or not. He had operated on cases where the whole pelvis was one matted mass, with hæmatoma or abscess of the ovaries but tubes healthy. In the case of a healthy woman, whose history Dr. Armstrong gives, who, after making a good recovery from confinement, takes suddenly ill and dies from the rupture of a pus-tube, the question arises—When did that pus originate? Is it not possible that it may have originated after impregnation, when the slightest tendency to inflammation might lead to abscess.

DR. SHEPHERD asked if all these cases originated in gonorrhœa. He was rather startled by Dr. Armstrong's advice to "extirpate the viper when young," for the mortality would be greater if the operation was performed by men not accustomed to it.

DR. ARMSTRONG, in reply, said that the diagnosis was anything but easy. He makes a complete examination, under ether if necessary, and by taking all the subjective and objective symptoms that may arise into consideration, a fairly accurate diagnosis may be arrived at. If the condition cannot be determined, an exploratory incision becomes necessary. The question of when does the pus arise? is a very difficult one to answer. The disease may extend over long periods of time under varying conditions. Whenever there is distinct evidence of pus, the sooner it is removed the better.

Stated Meeting, December 4th 1891.

F. BELLER, M.D., PRESIDENT, IN THE CHAIR.

New Members.—DR. T. F. ROBERTSON of Brockville and J. V. AUSTIN were elected members.

Micro Section.—DR. LAURENCE exhibited the organs from a case of renal disease, which he presented, in addition to the cardiac lesion, the various secondary changes. The heart was dilated, the cavities being full of soft blood. It was also hypertrophied, the dilatation extending the hypertrophy, especially

on the left side. The hypertrophy was most noticeable on the walls of the left auricle, the average thickness being four millimetres or three times the normal thickness. Marked changes were seen in the mitral valve, the orifice being reduced to a button-hole opening, which barely admitted the tip of the little finger instead of at least two fingers. On the aortic semilunar valves there was an acute endocarditis engrafted on the old disease; the same was seen, but in a lesser degree, on the pulmonary semilunar valves. The mitral and tricuspid valves showed no signs of recent endocarditis. Right lung contained several typical hemorrhagic infarctions, the rest having a mottled appearance of a brownish-red tint, and is an example of brown induration due to the stagnation of the blood in the lungs. In the pulmonary artery there was found an adherent thrombus filling the branches going to the lower lobe. The left lung showed brown induration and typical pressure atrophy; at the root there was distinct evidence of an old infarction, which was decolourized. Histologically there is a large increase of the interlobular connective tissue; it is a typical catarrhal compression of the alveolar cells best known as chronic desquamative pneumonia. The liver showed the changes due to stagnation, the characteristic nutmeg variety. The spleen was not large and dark, as would be expected, probably on account of it being bound down by adhesions.

DR. JAS. STEWART related the clinical history of the case. The origin of the endocarditis was doubtful. The girl never had suffered from rheumatism, but had had a violent attack of chorea at the age of seven, there being no articular pains as far as she could remember. The physical signs were characteristic of the disease; a rough præ systolic murmur heard solely in the mitral area, and not propagated in any direction. Before death the physical signs of pulmonary consolidation were very evident.

Chronic Alcoholic Poisoning.—DR. JAS. STEWART brought before the Society a man suffering from a train of very marked mental symptoms, together with certain sensory, motor and reflex symptoms. There had been mental depression for several months with perverted sensations, especially of the extremities. Very

fine tremors of the hand and to a slight extent of the tongue ; also an irregularity of the furrows of the brow. There is absolute loss of knee-jerk, and at the time of his entrance to hospital he had been quite ataxic. His history is one of the neuroses and insanity. Ten years ago he was confined in the Longue Pointe Asylum for three or four months on account of insanity in the form of acute mania, with hallucinations of hearing, of being pursued by his friends, and on more than one occasion made an attempt to injure the attendants. He recovered from this and remained well until last spring, when, after a severe bout of drinking, he again became insane, this time in the form of melancholia unattended with delusion, but accompanied by the other symptoms mentioned.

Referring to the effects of alcohol on the nervous system, Dr. Stewart said that it attacks the two extremes, the cerebral cortex and peripheral nerves, but does not affect the cord to any great extent. The tremor of the hands was due to the motor cortex being depressed, the cells are thus unable to send out lasting impulses. As to the mental symptoms, there may be either mania or melancholia, delusions being frequent with both. Such cases usually recover. The train of mental, sensory, motor and reflex symptoms, as illustrated by this patient, never occur together except in alcoholism.

A Case of Extensive Tuberculosis amenable to Surgical Treatment.—DR. BELL showed the patient, a little boy of five years of age, who had been found a week on the wharf two years ago. He was taken to the Montreal General Hospital, when it was discovered that he was suffering from advanced disease of the left lung, with masses covering the right almost down to the base. At the time it was thought that nothing could be done for the child, but as he was being gradually gained strength, when Dr. Bell decided to operate. He removed the head, neck and great majority of the thorax, and scraped away the floor of the chest cavity. The wound surrounded the mouth, but a small branch when there was a wound in one of the ribs, this was a well known operation when it was performed. The child had been suffering from this operation

when the other testicle became involved and was removed. From that time the child has been free from any manifestation of the disease and has rapidly gained strength. He is now able to run about, wearing a thick-soled boot on the affected limb.

Atrophy of the Stomach.—DR. SHEPHERD exhibited two remarkable specimens found in the dissecting-room. They were both found in adult women who had been inmates of the Longue Pointe Asylum. In the first specimen the stomach was found to be greatly atrophied, being smaller than the intestines, and throughout the length of both stomach and intestine there were seen at intervals constricting bands which greatly narrowed the lumen of the canal. The second specimen showed great atrophy of the stomach, but no constrictions.

Dr. Shepherd considered the specimens unique. He had never seen or heard of anything like them. He could give no history of the patients, and could offer no explanation as to their cause.

Diverticulum from the Bladder.—DR. SHEPHERD exhibited another dissecting-room specimen, which was a bladder, from the posterior wall of which protruded a remarkable diverticulum. It consisted of a protrusion of the mucous membrane of the bladder through the muscular coat. He could give no history of the case.

DR. McCONNELL thought that if the stomach was not used for some time, as is often the case with the insane, the organ would atrophy.

DR. JAMES STEWART stated that there were several cases on record where the stomach never fulfilled its functions, and that digestion took place in the duodenum, some of the cases having lived to a fairly old age.

DR. MILLS did not look upon the cases as unique. He knew of a condition, not unlike the specimens, found in a case of human hibernation (which he hoped to report in detail at a later date). From the appearance of the first specimen it looked as if a portion of the stomach had done its work and become slightly distended, while a portion devoid of function formed the constricting bands. It did not explain the condition to say that it is atrophy from lack of use.

DR. LAFLEUR regretted that the decomposed condition of the specimen precluded microscopical examination, and drew attention to the fact that the constricted portions were very much thicker than the other parts.

Vulvo-Vaginal Cyst.—DR. ALLOWAY related the case of a young lady who had consulted him four and a half months ago for an enlargement of the left labium majus. This, he thought, was a vulvo-vaginal cyst, though it presented characters unlike those usually found, and did not appear to be just in the proper position. It was oblong in shape, running up the side of the labium to the level of the opening of the meatus, and was soft and fluctuating. At the operation he found no definite cyst-wall, but a jelly-like mass which was not mucus but very like myxoma. This he carefully scraped away, and the edges of the wound being brought together healed by primary union. A few days ago she returned, stating that the growth had recurred. Thinking that it might be a return of the myxoma, Dr. Alloway advised removal, to which the patient consented. A tumour was found, but in a different position to the former one, it being in a line with the posterior vulvar opening. This was removed by careful dissection and was found to be a true retention cyst of Bartholini's gland. On attempting to pass a bristle through the duct it was found to be occluded by the cicatrix of the previous operation.

Hæmatoma of the Fallopian Tubes.—DR. ALLOWAY exhibited the specimen, removed from a patient who had been complaining of extreme pelvic pain, menorrhagia and sterility since the time of her marriage six and a half years ago. Commenting on the case, Dr. Alloway said that until quite recently this condition was supposed to occur only in tubal pregnancy, but now it is known that it may be produced by any inflammatory condition or excessive congestion.

Hæmatoma of the Ovaries.—DR. ALLOWAY exhibited two specimens of this condition. The first had been removed from a woman suffering from pelvic pain and menorrhagia. A prominent symptom was nervous tremor, which he attributed to loss of blood and general debility. The appendages were found fixed

in a mass which was removed. The ovaries were perfectly ridled with blood cysts. The second specimen was from a woman suffering from menorrhagia and constant pain, and in whom he had diagnosed a myomatous uterus. There was also subinvolution of the tubes.

In all these cases he had used catgut instead of silk for ligatures, and had found no evidence of want of strength.

Total Extirpation of the Uterus for a Myoma.—DR. WM. GARDNER exhibited the specimen of a large myoma on the posterior wall of the uterus from a woman, aged 50, who had been suffering from profuse hemorrhages, having bled almost continuously during the summer. He had diagnosed the tumour several years ago, and its growth had been slow. There was nothing peculiar about the case, but he wished to speak of the method of operation. He had removed every part of the uterus through the abdominal incision by the method explained in detail at the last meeting of the Society. He had used catgut for ligatures, and considered that it had great advantages in pelvic surgery. Silk ligatures may become infected from contact with the drainage tube, and act as a constant source of irritation until they come away, while catgut holds just as well, and if it should be infected by contact with the drainage-tube it is a small matter as it is so quickly absorbed. He thought that the severe pain so often complained of after the removal of the appendages was due, to a certain extent, to the persistent constriction of the pedicle by the silk ligature.

DR. ALLOWAY assisted Dr. Gardner, and thought this method would be the one of the future. The operation would be very difficult if the abdominal walls were large and thick. Another disadvantage was the enormous amount of physical endurance required on the part of the operators, for the operation was undoubtedly the most difficult in pelvic surgery, but it offered the great advantage of leaving no sloughing tissue behind.

DR. MCCONNELL did not agree with Dr. Gardner's explanation of pain after removal of the appendages. He did not think that the constriction of the ligature could last long enough to produce the pain.

Tumour from Oviduct of a Hen—DR. MILLS exhibited the specimen of a caseating tumour about the size of a large turkey's egg which he had removed from the oviduct of a hen. The hen had been out of sorts for several weeks and the tumour was discovered, the whole process lasting about eight weeks. This apparently rapid growth corresponds with the brief period of growth and development and the short period of usefulness of a hen's life.

A Case of Meningitis following Middle Ear Disease.—DR. SPRINGLE read the history of this case, as follows :

The patient, a female of 35 years, gave a history of suppurating disease of the right ear for some years past. More or less acute pains on that side of the head were supposed to be of a neuralgic nature. These were always relieved when a discharge took place from the ear. One day in June last the patient began to suffer from pain over the right side of the head, which subsided towards evening, and the patient enjoyed a good night's rest. At three o'clock in the afternoon of the following day she was seized with violent pain in the above situation ; this was followed by violent general convulsions, and when the patient was first seen the case presented the characteristics of a most violent case of acute meningitis. The condition lasted for twelve hours from the time of onset, and the patient died. At the autopsy, the dura was found to be adherent intimately to the calvarium. A condition of acute meningitis obtained. A perforation measuring 10 mm. in its horizontal diameter and 15 mm. in its vertical diameter, and its cavity occupied by a slough, was found in the posterior surface of the petrous bone, 15 mm. from the internal auditory meatus and encroaching on the groove for the lateral sinus. The dura was lifted up from the bone here but no thrombosis of the sinus existed. A probe passed from the perforation through to the external auditory meatus. A further examination of the body was not permitted by circumstances. This is to be regretted, as a soft blowing systolic murmur was to be heard during life over the mitral and aortic areas of the heart. This condition was observed in a similar case before this Society, some two years ago, in which some suspicions of ulcerative endocarditis were entertained.

The PRESIDENT said that whenever fatal symptoms have ensued so rapidly on chronic ear disease, death has uniformly resulted from diffuse meningitis. He had never seen the more chronic form. It is quite consistent to assume that there may have been a previous localized meningitis from which the patient recovered. We never know how far a lesion extending from the ear to the cranial cavity has gone or will go. Such a rapid case as this one is rather rarely met with.

CANADIAN MEDICAL ASSOCIATION.

The following discussion on some points in the President's address took place at the recent meeting of this Association :—

DR. BRAY (Chatham) dwelt on the duty of every medical man in the Dominion supporting the Association, and thought this end might be best attained by adopting the President's suggestions. The meetings might be held biennially, and a strong appeal made to the different provincial associations to co-operate. Another point which might be discussed appropriately now was the advisability of altering the medical acts of the different provinces with a view to securing a uniform standard of medical education throughout the Dominion. This difference at present prevents any medical reciprocity between the medical colleges.

DR. MOORE (Brockville) commented in favourable terms on the fifth year lately added to the medical curriculum in the Ontario schools, showing that in this matter we were only following the lead of the mother country, whose distinguished representative (Mr. Bryant) he was delighted to see on the platform. But what we want is more clinical work, not an increase of the didactic lecture burden.

HON. DR. SULLIVAN (Kingston) hoped the meeting would not decide hastily to postpone the meeting for three years, as in that time all interest might be dead. Fixing on Ottawa would cap the climax, because it has none of the advantages a city like this has as a permanent place of meeting. He thought the depression was only a temporary one, and that the old way was still the best. All the support of these meetings comes from west

of Montreal, and the meeting at Quebec even had been a failure. Why our French-Canadian confrères had not taken kindly to this Association was a mystery ; certainly it could not be due to lack of ability, but still the fact remained that they had not. The formation of active provincial societies, like that of Ontario, was the only way to remedy this apathy. He felt convinced that if the meeting did not take place for three years, and then meet in Ottawa, it would only be to hold a *post-mortem* on the defunct Association. Referring to the Ontario Medical Act, the old one had worked well, but it was found that the supply was getting in excess of the demand, and therefore to prevent overcrowding in the profession they had added another year to the medical course. And now they were talking of exacting a preliminary examination equivalent to the B.A. degree. The United States is following us in this matter.

DR. HARRISON (Selkirk, O.), speaking as a delegate from the Ontario Medical Association, did not think that because the Toronto meeting was a success it followed that Ottawa was the best place, Montreal might do, but not Ottawa. The success of any meeting depended on the facilities any place offered, and not on the geographical position of the place itself. He felt that it would be a great mistake to decide on such a change this year ; perhaps next year we would be in a position to decide.

SIR JAMES GRANT (Ottawa) approved of the action of the Ontario Medical Council in adding a fifth year to the course, as tending to elevate the standard and prevent overcrowding. He thought it a pity that we should have to discuss the chances of life of the Dominion Association in its twenty-fourth year. It does us all good to meet our fellows, yet the attendance at these meetings is not worthy the Association. Why should we not have medical federation on this continent and medical reciprocity in the widest sense of the term. As Canadians we should have no cause to be ashamed of our products, for one of our men (Dr. Osler) is now at the head of the best scientific medical institution in the United States, and our students always take a good place across the border. In such a scientific federation we could take our proper place.

MR. THOS. BRYANT (President Royal College of Surgeons, London, Eng.) was greeted with prolonged applause on rising to speak. He said he was afraid that much he might say would sound flat and commonplace. He was charmed to find that the additional fifth year was up for discussion, and he could not help thinking, as he listened to-day, that he was sitting at his own Board-meeting some years ago when the same subject was before it. He had heard the very same arguments *pro* and *con* over again, but they had got the fifth year and it was a success, and he was glad this country was following. Their experience might benefit us now, and he would therefore give it. The first defect they set out to remedy was the want of a good preliminary education, and an able committee are at present at work on that subject, and will doubtless soon devise some method of raising the standard. In this country you have a sufficient number of universities to justify you in demanding some literary degree. Every man wishing to study medicine should be at least an educated man to begin with; and if to this you add the technical knowledge of his profession, you have a true scientific man. We have therefore a right to look for literary excellence in the answers to examination questions; but how seldom do we find it. In this respect you even have the advantage of us, for a university course here costs less than it does with us. The examination questions, too, often do not indicate the standard of education, because although they may be quite difficult enough, yet the student may be only required to attain 50 or 30 per cent. of the total marks. This should not be. The true work of the medical course should begin with anatomy and physiology, to which the first two years would be devoted. Chemistry and physics should be in the preliminary course, and taught in all higher schools. Next comes in our fifth year question, and let us fully understand what we mean by a year. Here, I understand, it only means six months! This should not be so, and is a great blot on the medical course you give. Let a medical year consist of nine months, and let us have five such years. After passing his primary subjects (anatomy and physiology) a student is ready for clinical work, which is the summit of knowledge.

Now, two years is all too short to devote to this, and hence we have added a fifth year to this kind of experience, which is of such value that we most heartily recommend it to you. Regarding the question of allowing the student to put in the extra year in some hospital, or with a private practitioner, it would be necessary to get a certificate which the licensing board could accept. We do not accept the certificate of every or any licensed practitioner, but name those whom we will accept, and to get on this list the practitioner must show that he is in a position to really teach the student something, who in turn would pay the practitioner a regular fee for such instruction. This system has worked well with us, and we heartily recommend it. The multiplicity of diploma-granting bodies here is an anomaly which you cannot too soon do away with. We found it so, and we have changed, and now we no longer divide surgical from medical knowledge in our licenses any more than we ever did in our teaching. You, too, should combine, and get one licensing board for the whole Dominion. Take picked men from each medical school, and form a conjoined Board of Examiners. As an examiner in London I have had many opportunities of testing your students, and can testify to their excellence; but you would be better still if you only gave the examiners one term, thus excluding men with "hobbies," and removing any inducement the student might have to cram up for some special examiner instead of laying up a store of good and useful general knowledge. Regarding the question of your Society, let every local society be branches of the central one, bound to send delegates to the central meeting, there to elect a president and select the proper place or places for meetings; and by all means choose a clinical centre as a place of meeting. (Applause.)

DR. BROSSEAU (Montreal) said the French-Canadian doctors were anxious to take part in the meetings, and could easily do so on the plan suggested by Mr. Bryant.

Selections.

Autumnal Typhoid.—There is much reason to fear that the autumnal increase in the prevalence of typhoid fever, which long experience has taught us annually to expect, is this year of more than average severity. There are few things about the infectious fevers more striking than their seasonal prevalence. We know that some—such as typhoid fever and diphtheria—are due to infection by specific microbes, and we surmise the same to be true of all. We know also that the insanitary conditions which favour the spread of the infective principle of typhoid fever are always present, in March and April, as widely as in October and November, yet the number of cases in the former months is scanty, in the latter large. The fact is so well known that it is hardly necessary to prove it; but if further proof is wanted, it may be found in the Statistical Report of the Metropolitan Asylums Board published this week. The admissions of patients suffering from typhoid fever have been recorded month by month since 1872: the numbers, it is found, have fallen to the minimum three times each in March and April, five times in May, seven times in June, and once in July; they have risen to the maximum once in September, eleven times in October, six times in November, and once in December.* In tropical

* The figures for this year are not yet available, but some indication of the severity and prolonged character of the present prevalence may be gathered from the following table of deaths:—

Deaths from Typhoid Fever 1891.

		28 Principal English Towns.		Dublin.
Week ending	August	1	30	—
"	"	8	22	1
"	"	15	26	2
"	"	22	32	—
"	"	29	40	4
"	"	September 5	34	2
"	"	12	32	3
"	"	19	46	4
"	"	26	41	3
"	"	October 3	45	5
"	"	10	54	3
"	"	17	72	9
"	"	24	66	5
"	"	31	56	7
"	"	November 7	68	14
"	"	14	59	—

and subtropical regions the hot months are the typhoid season. A great deal has been done by improved sanitary administration to check the spread of typhoid fever, but clearly we have not yet touched the causes that lead to this seasonal prevalence, which, in spite of the diminution in the number of cases, still shows itself so clearly in the statistical returns. In what direction are we to seek our clue? In the first place, it must be remembered that the period between infection and the development of the first symptoms cannot be set down at less than a fortnight on an average, and that the onset of the disease is so insidious that the sufferer seldom seeks advice until the disease has been on him for several days, perhaps a week—that is to say, about three weeks after the entrance of the infective principle into the system. We are therefore safe in concluding that the majority of patients are infected in September, and generally in the last weeks of September, that is, at the end of the summer, if we count the summer to be in Europe, as we very fairly may, July, August and September.

Eberth was the first (in 1880) to place the theory of a typhoid bacillus on a sound basis, and his researches have been confirmed in every particular and extended by Koch, Meyer, Gaffky and others. The bacillus is a short rod-shaped organism, which is found in the diseased organs arranged in radiating or retiform groups. It will grow on nutrient gelatine at ordinary temperatures, forming in twenty-four hours a delicate whitish cloud, which under a low power of the microscope is seen to be made up of a number of minute round colonies. Under a power sufficiently high to show the contour of the individual bacilli, it can be seen that they are endowed with spontaneous movement, which enables them to travel across the field of the microscope. These artificial cultivations reach their maximum development in about four days, but continue to live for at least three or four weeks more. The bacilli also grow very luxuriantly on potatoes, and also in many vegetable infusions (carrots, marrows, etc.).

An important point in the life-history of the typhoid bacillus is that when grown on potato in a warm, moist atmosphere, it readily forms spores on the third or fourth day. At 86°F. the

formation of spores is rapid, at 68°F. slow. A warm week in a wet summer would provide, therefore, the very conditions which the bacillus requires for the formation of spores in large numbers outside the human body. Judging by analogy, these spores, once formed, would be able to resist conditions of cold and drought which would be fatal to the bacilli which gave them origin, and would remain ready to give rise to the disease when introduced into the human body with water or food. Gaffky, who has made a special study of these bacilli for the German Board of Health, believes that the spores may remain quiescent for long periods, and "may sprout and form bacilli in favourable circumstances, even outside the animal economy, may increase enormously in numbers, and in the warmer part of the year may form spores afresh." Mr. W. H. Power, in the course of investigations for the Local Government Board, has brought out the fact that in certain epidemics traced to the milk supply, persons who drank milk which had been kept overnight suffered earlier and in larger numbers than those who drank fresh milk—an observation which probably finds its explanation in the fact that the spores had time to germinate and reproduce the bacilli in large numbers before the milk was drunk.

It is well known that there are three stages in typhoid fever—the stage of ascent of the temperature, the period of stationary temperature, and the period of decline. The first period, which lasts four or five days, presents the most characteristic type of temperature, the evening rise of 2°F. and the morning descent of 1°F. It is interesting to know that it is during this period that the bacilli are present in the largest numbers in the tissues. During the stationary period, which varies greatly in duration, according to the severity of the case—the period of high temperature with only slight morning remissions—we have probably to do with a double infection—the true typhoid infection and septic infection of the intestinal ulcers. The proverbial uncertainty of typhoid fever, the liability at any time during the stationary period, even in relatively mild cases, to the appearance, almost without warning, of most serious symptoms is probably to be traced to this secondary infection, which may lead to rapid

extension of ulceration with all its attendant dangers. The importance of taking the disease in time is universally recognised; the worst cases are seen in persons who have tried to resist the *malaise* of the initial stage, and have continued about their work or made long fatiguing journeys during that stage. The exhaustion thus produced increases not only the severity of the true primary typhoid infection, but also that of the secondary ulcerative affection. Hence also the prospect of recovery is, *cæteris paribus*, better in young robust adults, especially of the male sex, than in extreme youth or advanced age.—*Brit. Med. Jour.*, Nov. 21, 1891.

Rupture of an Aortic Valve through Physical Exertion.—Tretzel (*Berlin. klin. Woch.*, Oct. 26th, 1891) publishes a case of rupture of an aortic valve caused by violent exertion. A healthy, muscular man, while pushing a heavy wagon, was suddenly seized with pain in his chest, soon after which there came on a peculiar purring noise, clearly of cardiac origin and audible several feet off, no other discomfort being experienced except some tightness of the chest. The purring noise corresponded with a thrill felt when a hand was applied to the chest-wall. Auscultation showed the *bruit* to be synchronous with the cardiac diastole, and loudest over the middle and to the right side of the sternum. Treatment was ordered in the form of digitalis and physical rest. Instead of resting, however, the man continued at his arduous occupation. About two years afterwards he again sought advice, when Tretzel found him breathing with difficulty, cyanosed, and with œdema of the feet. Rest in bed, calomel and digitalis alleviated his symptoms, and enabled him in a measure to resume his occupation. About a month later, however, he suddenly fell down dead. At the necropsy the heart, especially the left ventricle, was found enormously enlarged. The right aortic valve was partially torn from its point of attachment, its free detached edge being slightly thickened. Corresponding with its former seat of insertion was a wide linear tendinous-looking scar, slightly raised above the surrounding intima. The other valves were healthy and competent. The muscular wall of the heart was pale and friable, having evidently undergone degeneration.—*Supplement to the British Medical Journal*, Nov. 21, 1891.

THE

Montreal Medical Journal.

VOL. XX.

JANUARY, 1892.

No. 7.

THE INFLUENZA EPIDEMIC.

At the present time influenza is prevalent over the greater part of the American continent, and in many cities the death-rate has increased greatly in consequence. On the continent of Europe it is also rife, but not universal. Berlin, Hamburg, and St. Petersburg, from reports, have suffered very severely. In Great Britain certain sections of the country have suffered severely, while in others but few cases have been reported. In the South of Scotland the disease has been very general and severe, while in London but comparatively few cases have been reported. This unequal distribution has also been noticed on this side of the Atlantic and on the continent of Europe. The disease appeared some weeks ago in this country and is slowly extending.

In the above respects the present epidemic presents a marked contrast to that which we had to deal with two years ago. The latter was characterized by the great rapidity of its propagation and its universality. Within three weeks the entire continents of Europe and America were passed over by the all-pervading poison; and it is safe we think to say that more than half of the population suffered from its action. In the present epidemic the extension was much slower, and not nearly the same proportion of people have been affected.

Although a great deal has been written on the subject we can hardly say that we have made any advance in understanding the nature of the disease or its treatment. A great deal, however, has been ascertained about the symptomatology and after

or four ounces of hot beef tea, care being taken that it is thoroughly dissolved. Renal inadequacy is a contra-indication to the employment of repeated doses, as elimination is prevented and the danger of intoxication being in consequence increased. In addition to the blood changes referred to and constipation, sulphonal induces ataxia with manifest weakness of the muscles of the extremities. Lowered temperature and slowness of breathing have also been observed. Visual and auditory hallucinations are uncommon effects. With care we believe it is possible to avoid all these disagreeable effects, or at any rate such as are of gravity, by attention to the following directions:—

(1) The maximum doses should not exceed twenty grains.

(2) It should be thoroughly dissolved.

(3) The drug should not be given continuously for more than a few days, and then only when purgatives are employed to counteract its astringent action.

(4) It should not be given continuously in cases of renal inadequacy.

Obituary.

—The death of Mr. John Wood of London is announced. For many years Mr. Wood held the chair of Surgery in King's College.

—Through the death of Dr. J. D. Gillespie, Edinburgh-looses one of its most noted and respected medical men. A pupil of Syme, when this great surgeon was at the zenith of his fame, Gillespie laid the foundations of a surgical experience which he extended greatly by his fifteen years of work as an active surgeon in the Royal Infirmary.

Medical Items.

—Through the will of the late Mrs. Phillips, the Montreal General Hospital is to receive the sum of sixty thousand dollars.

—Lord Mount-Stephen has presented the sum of \$5,000 to the authorities of Aberdeen University for the purpose of promoting the contemplated extension of the buildings.

—Dr. Paul F. Mundé has resigned the editorship of the *American Journal of Obstetrics and Diseases of Women and Children*, which he has held for eighteen years. He is to be succeeded by Dr. Brooks H. Wells.

—Dr. Canniff of Toronto has in the press a work entitled "History of the Medical Profession in Upper Canada." Dr. Canniff is entitled to the gratitude of the profession in rescuing from oblivion the many interesting details connected with the early medical history of the Province of Ontario.

—The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1892. Essays intended for competition may be upon any subject in Medicine, and must be received by the secretary of the College on or before May 1, 1892. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College.

QUACKERY IN ITALY—The periodical reports forwarded by the prefects of the various provinces of Italy to the Minister of the Interior show that, in the first half of 1891, 709 instances of the illegal practice of the healing art in one or other of its branches were brought to the knowledge of the authorities. In only 157 of these was a judicial decision pronounced; in 102 of them the defendants were found guilty and punished, and in 55 they were acquitted. During the same period only four cases of the wrongful use of academical titles were reported throughout the whole of Italy.

AMCEBA'S LOVER.

A neat bacillus, with rounded ends,
Was seen, by means of a powerful lens,
Moving with undulatory grace,
Through a fashionable lymphatic space.

His graceful appearance would take with some
As he picked his teeth with a flagellum,
Tho' he flirted in a way to shock us
With every common gonococcus.

His manuels were good—every one knew it—
For he'd been through a fine culture-field,
But his tailor's efforts were all in vain
To collect a bill for this germ's membrane.

His mind was filled one might say wholly
With thoughts of sweet Amœba Coli.
Her mobile form 'twas his conjecture
Languished within the sigmoid flexure.

So hurrying through an abscess rancid
To an artery of rapid transit,
He took, in a depôt of congestion,
A blood disc bound for the large intestine.

In a parlour car he chanced to see
A plasmodium malariae.
A pretty picture she seemed to make
As she fed her spores on ague-cake.

And then he thought of the bliss in store
Of Amœba and a baby spore !
And how they'd dwell in a saccule neat
In a calm and scybalous retreat.

But just as he reached Amœba's door
He heard a protoplasmic roar;
And there, repulsive in his might,
Was a hungry, savage phagocyte.

His mouth was large and his words profane
So our hero drew his good ptomaine.
"Swish! Snap!" went a pseudopodic jaw,
And "gulp" went a phagocytic maw.

While his mistress saw a vacancy
Where her loved baccillus used to be,
Then Amœba with a doleful shiver
Went far away to the dismal liver.

—*Ex.*

THE

MONTREAL MEDICAL JOURNAL.

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

GEORGE ROSS, M.A., M.D.,

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Professor of Clinical Medicine, McGill University.

FEBRUARY, 1892.

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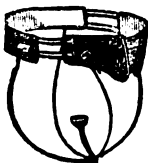
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THE

MONTREAL MEDICAL JOURNAL.

VOL. XX.

FEBRUARY, 1892.

No. 8.

Original Communications.

PREGNANCY WITH OVARIAN TUMOUR—FOUR CASES—THREE SUCCESSFUL OVARIOTOMIES.*

BY WILLIAM GARDNER, M.D.,

Professor of Gynaecology, McGill University; Gynaecologist to the Montreal General Hospital.

The association of the gravid state of the uterus with ovarian tumour will be admitted on all hands to possess exceptional interest to the clinician. The danger to a patient thus afflicted, unless the condition be clearly recognized and skilfully dealt with, is very considerable.

An examination of the subject will show that in almost all cases the neoplasm existed before the advent of pregnancy. The impregnation of a woman with ovarian disease of one side need not excite any surprise when the other ovary is healthy. It is surely, however, a reason for wonder when pregnancy occurs with double ovarian tumour, sometimes malignant; and yet a number of such are on record. The only possible explanation of such cases is that pregnancy occurred before complete obliteration of all ova-producing stroma. It would be obviously uncalled-for, before this learned body, to enter into any minute discussion of the subject, yet I venture to remind you of some of the more important dangers to a woman in this grave dilemma.

In the first place, a quiescent or very slowly growing tumour is in most instances with the advent of pregnancy stimulated to rapid growth, with development or great increase of all the

* Read before the Canadian Medical Association, at Montreal, September, 1891.

symptoms. When it is borne in mind that with rapid increase of the tumour, with all the dangers of such a condition, there is a simultaneous development of the uterus, the dangers will be more easily appreciated. But a small tumour may remain small, be subject to no increase of growth, and yet become a source of grave danger. In such cases this is usually from torsion of the pedicle, with subsequent bleeding into the cyst, peritonitis or gangrene, and speedy death unless prompt relief be afforded by the resources of surgery. The dermoid cysts here preserve their well-known exceptionally strong tendencies to torsion of pedicle.

In small tumours the pregnancy may not be interfered with in any way even to full term, and the tumour itself may give no evidence of change, yet with the advent of abortion, premature or full term labour, the woman is at once placed in a position of great danger. This is particularly the case if the tumour be small enough to be still accommodated within the pelvis, as then it is sure to be more or less injured during labour, and the injury has been such as, in many cases on record, to kill the patient.

My experience of the grave condition which I have chosen as the subject of my paper consists of four cases. In three of these ovariectomy was performed at varying stages of pregnancy. In the fourth, ovariectomy was also done, but in the non-pregnant condition. This woman had borne three children after the diagnosis of ovarian tumour had been made. The case is here introduced as an exceptional illustration of how a serious danger may be repeatedly escaped.

My first case was reported in a paper communicated to the *Canada Lancet* for February, 1887. Apart from the main source of interest in the case, it was also interesting in some other particulars. I present the main features, copying from the *Lancet* report:—

“ On the 10th November, 1884, by the advice of my friend Dr. Dugdale of this city, I was consulted in the case of a lady, aged 37, the subject of an abdominal tumour. She had been married eighteen or twenty years, and was the mother of two children—one, a grown-up daughter, born a year after marriage,

the other 11 years of age. A few months after the birth of the last child she began to suffer from cough, hæmoptysis, pain in the chest, dyspnœa, emaciation, and all the other evidences, general and local, of phthisis. The physical signs existed mainly in the right lung, in the apex of which a cavity was diagnosed. So serious were the symptoms at one time, that it was thought by her medical advisers that she had but a few months to live. She rallied, however, and although never long free from cough and expectoration, her general condition became much better, and she had for several years lived in tolerable comfort. To this result the preparation known as Hydroleine had seemed to contribute very much. Between three and four years previous to my seeing the lady a tumour, diagnosed as ovarian, had developed, and when I saw her the abdomen was enlarged thereby equal to pregnancy of six months. All the evidences of cystic ovarian tumour were present, but as it had grown none for a year or two, was not painful, did not seem to be markedly affecting her general health, and as a portion of the tumour occupied the pelvis where it might be adherent, seriously complicating ovariectomy in a delicate woman, I advised non-interference until some indication for prompt action arose. My advice was followed. I did not again see her till early in May, 1886. I then learnt that the lung symptoms had been alternately somewhat active and quiet, the tumour remaining stationary till March, 1886, when it began rapidly to increase in size; menstruation, which had hitherto been quite regular, ceased on 16th February, after a natural flow. There had been nausea and some vomiting. The large increase of the tumour had produced much dyspnœa and pain in the right side of the chest. On some nights the patient had been unable to lie from difficult breathing. I found her emaciated and slightly livid from impeded breathing. The breast signs were doubtful, but on examination the vagina was purple in colour, and both it and the cervix were markedly softened. Enlargement of the uterine body commensurate with the probable duration of pregnancy was tolerably well made out. That part of the tumour which occupied the pelvis at the examination eighteen months before had disappeared upwards. The patient

believed that she was pregnant, and so did her physician. I could only agree. She was watched for a fortnight or more. Her sufferings decidedly increased, and it became apparent that prompt action was necessary. Both patient and her husband (a non-practising physician) urgently desiring the operation, after gentle purgation and dieting for two days, on the 29th May the operation of ovariectomy was done at the home of the lady, Drs. Roddick and Bell assisting. Ether was the anæsthetic used—not, however, without some misgiving as to its possible effect on the lung conditions. The operation was simple and easy—a unilocular cyst of the right ovary, with favourable pedicle and no adhesions. On getting into the belly, it was interesting to note the contrast between the dark red fundus of the womb, as it lay behind the pubes, with the pearl-coloured tumour above it. The after-course of the case was easy and uninterrupted to recovery; no sickness and very little pain; the cough, necessary to get up the expectoration, being the only distressing symptom. The wound healed without a fraction of a drop of pus, either at the line of union or stitch-holes. She was kept in bed four weeks to allow of the cicatrix becoming firm under the strain of the developing uterus. After three months absence in Europe, I called on her in October and found pregnancy advancing, but the enlarging uterus causing considerable distress in breathing. She was confined by her physician at full term on the 26th of November, three days less than six months after the date of operation. Labour terminated naturally after six hours. It was followed by alarming hemorrhage, which led to fainting. It was controlled by ice. The child, a fine healthy boy, weighed nearly 10 lbs. She made an excellent recovery, suffering from nothing of any moment except weakness from loss of blood.”

The second case was in several particulars the most interesting of the series. A woman of 31 was admitted, in January, 1887, to the Montreal General Hospital under my friend Dr. Molson, one of the physicians. She had been married eight years, pregnant four times to full term, and had besides one miscarriage. The last pregnancy was to full term. Delivery fourteen

months previous to present illness ; nursed the child ten months ; menses did not appear till after weaning. Ever since this birth she had suffered left inguinal pain, and four months ago first noticed a lump in this region. Three weeks previous to my first seeing her, soon after a walk, she developed intense abdominal and pelvic pain with vomiting and fever. For these symptoms she was admitted to hospital, and after they had lasted for three weeks I was asked to see her. The pains and other symptoms were still severe. Constipation and retention of urine were present. In the lower zone of the abdomen could be felt a thin-walled, fluctuating, very tender, cystic tumour of the size of a child's head. The uterus was retroverted, fixed, and very tender. On opening the abdomen the tumour was found to be a dermoid cyst of the left ovary, with a long and slender pedicle twisted three and a half turns to the right. There were adhesions to omentum, parietes, and whole pelvic wall ; none were very intimate. The contents were thick and creamy, looking like pus, but coagulated solid instantly on cooling. There were three teeth, one a perfect molar, and a thick bony plate in the cyst-wall, together with a bunch of almost black hair. The cyst-wall was dark-coloured and looked gangrenous. The right ovary being distinctly enlarged and cystic was also removed. The cavity was washed out and a glass drainage-tube introduced and left for five days. The uterus seemed somewhat enlarged and dark-coloured. The thought of pregnancy flashed across my mind, but was not seriously entertained. Recovery was uneventful except for a mild phlebitis of the left leg. She left for home on the twenty-second day. Soon after, it became obvious that she was pregnant, and a little less than eight months after the operation she was confined by Dr. Molson of a living child. Both did well, and were alive and healthy a year after operation.

The last case is that of a young lady who consulted me in September last (1890). She had then been married two years and was the mother of one child, thirteen months old. She was healthy before marriage, but suffered from painful menstruation. She nursed her child for ten months. This child was born in August, 1890. She first menstruated in December, '89, and

again in January, '90. The flow was then absent till (the next) April, when there was a period. Another and the last occurred about May 15th. She had morning sickness quite frequently since July. Has lost much flesh the last few months, and has often felt chilly. For the two months previous to consulting me she had often had abdominal and pelvic pain. Three weeks previous to my first seeing her a very severe paroxysm occurred, and being then in Stratford, Ont., Dr. Welford was called in and discovered a tumour. At my first examination the following was noted: general uniform enlargement of the whole abdomen, greatest girth $38\frac{1}{2}$ inches; ensiform cartilage to pubes $17\frac{1}{2}$; distinct wave-fluctuation; dull percussion note over whole abdomen except a large area on right side, which is clear back to spine and a little below crest of ilium; dull all over left side, clear in the epigastrium, nothing solid to be felt; vagina and cervix purple and distinctly softened; uterus pressed to lower and back region of pelvis, cannot be moved; its body cannot be distinctly outlined. During a fortnight of observation before operation girth increased to 42 inches, and ensiform cartilage to pubes measurement to 18 inches. At some of the examinations the clear percussion area of the right side had diminished, while the note on the left side was slightly more resonant.

Operation on the 10th October, Dr. Alloway assisting. The tumour was found to be of the left ovary, with only one adhesion, and that to the omentum, and a most favourable pedicle. The right ovary quite healthy. The tumour consisted of one-enormous cyst with greenish syrupy contents. In the interior, at one spot was an aggregation of small cysts with clear contents, like a bunch of grapes. The recovery was uneventful and rapid, and the patient sat up on the eighteenth day. Pregnancy went on to full term, and she was delivered on 4th March, 1891.

Examination of the literature of the subject and the evidence afforded by the three cases here adduced, lead me to venture the following conclusions:—

1. The association of pregnancy and ovarian tumour, if left to nature, is fraught with danger to the woman, whether the termination be premature or at full term.

2. When left to nature, abortion or premature labour may occur, in either case with frequently fatal result to the mother.

3. When the case proceeds to labour at full term, the result to the mother may be rupture or such other injury to the tumour that fatal peritonitis carries her off.

4. Tapping of the tumour, while it may temporarily relieve tension, is by no means free from danger by injury to the uterus or otherwise, and it does not cure the patient.

5. Ovariectomy with modern precautions is nearly as safe as in the non-gravid condition of the uterus, while the woman is at once cured of a disease which must ultimately demand operation.

6. The second case here related shows that serious complications such as torsion of the pedicle and consequent peritonitis with adhesions, necessitating the use of the drainage-tube for so long a period as five days, does not necessarily lead to abortion.

7. Ovariectomy in the present status of surgery, in the great majority of cases, must be the only proper treatment, and is often urgently demanded to relieve tension.

8. The indication for the operation in the case of small abdominal tumours is even more urgent, because of their great liability to torsion of the pedicle; and in the case of pelvic tumours, by reason of the almost certain rupture or necrosis from compression during labour.

CASE OF IMPENDING FATAL COLLAPSE. IMMEDIATE RESUSCITATION BY TRANSFUSION OF SALT SOLUTION INTO THE PERITONEAL CAVITY.

By T. JOHNSON-ALLOWAY, M.D.,
Instructor in Gynæcology, McGill University, Montreal.

The following case is one of some special interest, and I am induced to publish it in detail :—

Mrs. —, aged 42 ; married twenty years, three children, youngest 10 years of age ; no miscarriages ; menstruation regular, duration two days ; no menstrual pain, but has of late felt a “ gnawing soreness ” at epigastrium. Has always been weak and suffered from nervous prostration. By “ spells,” has attacks of vomiting without any apparent cause. Has never been jaundiced. During the past six weeks has noticed her abdomen becoming enlarged, but suffered no pain there. The measurement of the abdomen at highest point, on admission into my hospital, was as follows during successive days :

34½ inches.	35 inches.
34½ “	35½ “

The enlargement shows a tendency to increase notwithstanding active purgation.

On a careful abdominal examination it was proved that the enlargement was due to free fluid in the cavity and not to encysted. It was therefore a question as to the cause. After careful consideration I formed the opinion that the ascites depended upon malignant disease. The quantity of ascitic fluid seemed too large for that caused by tubercle ; neither had there been a history of previous attacks of peritonitis, so constant in tuberculosis of the peritoneum. The temperature also did not vary from normal standard at any time during her illness. In fact her present condition was great and progressive emaciation, prostration, and abdominal enlargement. After she had been under preparatory treatment for about one week I opened the abdomen. Three gallons of dark-brown, limpid fluid flowed out, and at the bottom of the pelvis I found two large, hard bodies—the ovaries ; they were non-adherent, nodular, and

about the size and shape of a human kidney ; they were stony hard to the feel, and attached by a short pedicle to the broad ligament. These ovaries were removed, catgut ligatures being used and the pedicle of each dropped. On further examination of the abdominal contents it was found that the mesenteric glands were much enlarged in certain clusters. The peritoneum was covered with secondary deposits about the size of crystal-like millet seeds. High up in the epigastrium was a large cluster of irregular masses located in the omentum, but which were not thought expedient to remove, ultimate good being very doubtful. The cavity was well cleansed and closed with silkworm gut sutures, leaving a drainage-tube in the lower end of wound. The Trendelenburg posture was used, which doubtless tended greatly to prevent shock on the sudden escape of so large a quantity of fluid. When put to bed her condition was very good, the pulse being about 120 and full.

All went well until about eight hours after the operation. I was then summoned by the nurse, who said the patient was pulseless and in a state of collapse. I found her in a very strange condition. There was not present that collapse we see from hemorrhage, but a restless, sighing, semi-incoherent condition. The radial pulse was a mere flicker, could not be counted, and the heart was evidently strained to its utmost to recover balance. I used hypodermics of brandy and also of ether with extract of digitalis, but no effect whatever was experienced on the heart during the half hour I awaited a change in the pulse ; on the contrary, it was gradually becoming less perceptible at the wrist. The yawning and sighing became more frequent, she became very restless in the bed, the respiration, from being very shallow, became gasping, and, in short, she was rapidly passing into a dying condition. Recognizing the fact that this alarming condition was most probably due to the sudden withdrawal of so large a quantity of fluid (three gallons) from the abdominal cavity, and thereby removing firm and constant pressure from the heart and large abdominal vessels, the patient was in fact bleeding to death within her own vessels. The remedy was evident, and without another moment's loss of time I transfused

about three quarts of sterilized salt solution (temperature 110°) into the abdominal cavity, through the glass drainage-tube fortunately inserted at the operation. When I had transfused this quantity she began to scream and vomit violently. I removed the tube and closed the opening by firm packs of cotton-wool. The strange, and I may say marvellous, result of this procedure now became apparent. The pulse at the wrist was beating full, strong, and counted 110 per minute. The time between the extreme state of collapse described and the taking of the pulse after the transfusion could not have been, at the outside, more than five or six minutes. I do not therefore think this remarkable change was brought about altogether by absorption of the salt solution, but in great part by the mechanical effect of pressure upon the vessels and heart, especially the latter, by lifting the diaphragm upwards. Also, the activity of the absorptive power of the human peritoneum is well known, and is estimated at the rate of five to twelve pints per hour, or the weight of the whole body in from twelve to twenty-four hours. If this estimate be correct, there must have been, in my case, a large quantity of the transfused fluid taken into the circulation in a very few minutes—enough, certainly, to turn the balance in the case of a rapidly failing heart. On the other hand, I do not think pressure of the fluid had all to do with the result, because on examining the abdomen some hours after the transfusion, it was as flat and free from fluid as when the patient left the operating-room. Absorption here was complete, and an intense desire on the part of the blood-vessels for fluid was evidenced by the rapid draining of the peritoneal cavity. The blood vessels were, however, satisfied with this supply, and the heart's beat did not average more than 115 during the following three and a half weeks she remained in my hospital. There was no effect on the temperature centres, as the highest temperature registered was 101.5° ,* and that only on the second day; it then fell to normal and remained there.

The result of peritoneal transfusion in this case has been exceedingly instructive to me, and I am sure will also be to others

* So-called "fermentation fever."

interested in these sad cases. Death from shock after exhaustive hemorrhage directly the patient leaves the operating table is by no means rare. We do not hear of all of them, because they are not reported, and we can therefore form only an approximate idea of the real mortality. Enemata of salt solution and hypodermic injections of the same have been tried with good results, but both of these methods are slow and limited in regard to the amount of solution which can be used in a given case. Peritoneal transfusion has not these disadvantages. The marvellous rapidity with which the fluid passes into the circulation will immediately resuscitate a failing heart, and places the patient from a dying to a living condition. In all cases where large tumours have been removed from the abdomen, the cavity should be filled with sterilized salt solution, and experience will show its great value during convalescence. I observed also that my patient did not suffer at all from the distressing thirst so noticeable after operations, and attributed so much to the effects of ether instead of to the blood-loss. It is certainly a strange way of giving a patient a drink, but, notwithstanding, it is equally as safe as the usual method, provided the solution is sterile and the operation has been strictly aseptic in technique.

23 MACKAY ST., MONTREAL.

CASE OF PLACENTA PRÆVIA (CENTRALIS).*

BY J. A. SPRINGLE, M.D.,

Lecturer on Anatomy, University of Bishop's College. Montreal.

The following report of a case of the above-mentioned somewhat rare condition is interesting, not only on account of the central attachment of the placenta, but also in the absence of some of the many features found in this happily rare complication to labour. A true placenta prævia centralis is exceedingly uncommon. Professor Lusk (*Midwifery*, Ed. 1885) had not observed a case, either central, partial or marginal, in 1500 to 1600 labours. Müller is quoted, giving the statistics as one in a thousand; Lomer, as one in 723 births.

Case Report.—Madame G. O., aged 36 years, French-Canadian, VI-para, sent for me on October 20th last in reference to a profuse bloody flow from the vagina. She was then in the seventh month of her pregnancy. Her previous condition and that of her former pregnancies do not have any bearing upon the case, beyond the fact that she is a sufferer from all the symptoms of an endometritis. During the first four months of her present pregnancy she enjoyed fair health. About the beginning of the fifth month she noticed a slight flow, which, however, soon ceased. From this time forward to the day she first came under my care she has had five bleedings, each successive one more profuse than the preceding one, and leaving her in a more or less exhausted condition. Up to this time she had not taken any particular precautions in regard to her condition. On Oct. 19th she began to bleed profusely, and when seen next day was passing large quantities of both clotted and free fluid red blood. An examination revealed a large bilaterally lacerated cervix and dilated canal, through which could be felt a mass having an extensive attachment about the internal os, and which could be recognized as the placenta. From the unfavourable surroundings it was thought best to temporize, if possible, to allow of the patient's removal to the hospital. After a week in bed and the use of mild sedative measures, she recovered and consented to enter the hospital.

* Read before the Medico-Chirurgical Society of Montreal.

On the 19th November I was surprised to learn that she had not gone to the hospital, and that she had had a profuse hemorrhage while walking in the street. This was due to a shock she had received. I saw her immediately after, and she was then in an exsanguine condition and fainting. The hemorrhage had evidently been enormous. The os was dilated to the size of a twenty-cent piece, the cervix was much softened, and a ragged mass of placental tissue protruded. Firm pressure stopped the flow. With the assistance of Dr. Kenneth Cameron chloroform was administered, ether not being available. But little of the anæsthetic was used, the patient being semi-unconscious. The os having been dilated as much as possible with the fingers, the right hand was then introduced and the thinnest portion of the placenta sought for. This appeared to be that portion situated over the anterior portion of the external os. This was rapidly separated and the membranes ruptured. Both feet were brought down, it having been a vertex presentation. This effectually stopped all hemorrhage. Traction upon the body of the child resulted in a rapid delivery, the placenta following immediately after. The infant was of an average size and was easily resuscitated. There was no post-partum hemorrhage. Upon examining the placenta it was found to be large and thick. The attachment of the cord was central, not marginal, as is so frequently the case in this condition. Moreover, a mass of tissue on its under surface, which I recognized as having occupied the exact centre of the os, corresponded with the centre of the placenta itself. The organ had the characteristic uneven appearance usually seen in such cases. Considering the ease with which delivery was accomplished and the happy result to mother and child, this case is unusual.

Prof. Braxton Hicks, at the Obstetric section of the meeting of the British Medical Association in 1889, laid down the following methods of procedure in such cases:—

- (1) After a diagnosis of placenta prævia is made, proceed as early as possible to terminate pregnancy.
- (2) When once we have commenced to act, we are to remain by our patient.

(3) If the os be fully expanded and the placenta marginal, rupture the membranes and wait to see if the head is soon pushed into the os by the pains.

(4) If there be any slowness or hesitation in this respect, then employ forceps or version.

(5) If the os be small and placenta more or less over it, the placenta is to be carefully detached from around the os. If no further bleeding occur, we may elect to wait an hour or two. But should the os not expand, and if the dilating bags are at hand, the os may be dilated. If it appears the forceps can be admitted easily, they may be used ; but if not, version by combined external and internal method may be employed and the os plugged by the leg or breech of the fœtus. After this is done the case may be left to nature, with gentle assistance as in foot and breech cases.

(6) If the os be small, and if we have neither forceps nor dilating bags, then combined version should be resorted to, leaving the rest to nature, gently assisted.

(7) If during any of the above manœuvres sharp bleeding should come on, it is best to turn by combined method and plug by breech.

(8) Where labour occurs before the end of the seventh month, version by combined method, no force following, is the best plan.

Lomer (*Berliner Klinische Wochenschrift*, Dec. 3rd, 1888) recommends version as offering the better chance to the fœtus, to which the prognosis is always unfavourable. In the case under consideration, traction upon the fœtus offered the only means of saving its life.

A FATAL CASE OF INVERSION OF THE UTERUS.

By C. P. BISSETT, M.D., St. PETERS, N.S.

On the 21st January, at 8 A.M., I was hurriedly called to attend Mrs. S., æt. 23 years, in her second confinement. On my arrival at the house, six miles distant, I was informed that the patient was dead; and so it proved to be, for upon entering the room in which she had been confined I found her blanched and lifeless. The midwife in charge, an ignorant old woman, told me that the labour had been normal, but that a "lump" had followed the delivery of the after-birth. Upon questioning her closely I found that the placenta had been somewhat slow in coming away, and that she had made traction upon the cord conjoined with pressure upon the fundus, whereupon the placenta came, followed immediately by the aforesaid "lump." Symptoms of hemorrhage and shock supervened, followed shortly by death. I examined the body and found that the uterus had been completely inverted and lay between the patient's thighs; the placenta had been completely detached. There can be very little doubt that the accident was caused by faulty management of the third stage of labour. Traction upon the cord is more or less risky even in skilled hands; but when performed by the ignorant or incompetent, the results may be disastrous.

NERVE-STRETCHING IN INVETERATE TRIGEMINAL NEURALGIA.*

By JAMES STEWART, M.D.,

Professor of Clinical Medicine, McGill University.

In the short paper which I have the honour to read before the members of this Association, I confine myself entirely to the consideration of those inveterate cases of trigeminal neuralgia which are usually described under the name of *Epileptiform Neuralgia*. This term includes not only those cases attended by spasm of the facial muscles, but also that class of cases in which the neuralgic paroxysm comes on with great suddenness, lasts a few seconds and persists for years in spite of all the ordinarily employed external

* Read at the meeting of the Association of American Physicians, at Washington, September, 1891.

and internal remedies. During the past two years, through the kindness of my colleagues, three cases of inveterate trigeminal neuralgia have come under my observation, and as the result of treatment in all three was fairly satisfactory, I will give a brief account of them, and afterwards refer to those published cases where a similar treatment was carried out.

CASE I.—INVETERATE TRIGEMINAL NEURALGIA CONFINED TO THE LEFT INFRA-ORBITAL BRANCH. NERVE STRETCHING. COMPLETE RELIEF FOR THIRTEEN MONTHS.

A married woman, aged 50, first came under observation in November 1889, complaining of severe neuralgic pains in the left infra-orbital region. Her previous health was good. There is no history of neuroses in her large family connection. The first paroxysm of neuralgia came on twelve years previously, and was attended by a profuse flow of saliva. For a period of about two years she had no recurrence of the attacks, but during the past ten years she had many attacks daily during the winter months of these years. She was entirely free during the summer months. During all these years she had been perseveringly treated by many different physicians, but with very little relief. When I saw her she was willing to submit to any measures whatever to purchase even temporary relief from her cruel suffering. I advised stretching the nerve, and Dr. Shepherd of Montreal kindly consented to undertake the operation, which he performed in December 1889, in Montreal. She remained entirely free from pain for thirteen months after the operation. In January 1891, the pain returned in the same spot with much of its old-time severity, but only lasted a few weeks. For the past six months she has remained entirely free.—(Reported by Dr. Weagant of Dickinson's Landing.)

There can be no question that the operation in this case was eminently beneficial, complete relief lasting for fully thirteen months after its performance.

CASE II.—EPILEPTIFORM NEURALGIA OF THE RIGHT INFRA-ORBITAL NERVE OF FOUR YEARS STANDING. STRETCHING OF THE AFFECTED NERVE, FOLLOWED BY COMPLETE RELIEF FOR FOURTEEN MONTHS.

This patient, a woman aged 65 years (a patient of Dr. Ross), was never affected with neuralgia until after her sixty-first year.

The family history did not show any tendency to neurotic troubles. Her previous health was fair. She had, however, borne more than an ordinary share of the world's cark and care. For a period of four years she has been troubled with severe darting pains in the region of the right infra-orbital nerve, and for several months before the operation the paroxysms had assumed an extremely severe form. For hours and even for a day or two at a time she was not infrequently compelled to remain perfectly quiet in the endeavour to lessen the number of attacks. During this time she could neither speak or eat without the occurrence of a paroxysm. The severer attacks were usually accompanied by twitching of the muscles of the same side of the face. All the usually employed remedies in this disease were successively resorted to, with little or no relief. In this rather hopeless state she readily consented to submit to any operation that was even likely to bring partial relief. Dr. Shepherd stretched the right infra-orbital nerve in Feb. 1890, and, with the exception of one severe paroxysm a few hours after the performance of the operation, the patient remained entirely free from pain for a period of fourteen months. After this she had on several occasions slight recurring attacks at considerable intervals, but the intensity of the pain never reached what it did in the period previous to the operation.

This patient died in August, 1891, from enteritis.

CASE III.—SEVERE NEURALGIA OF THE RIGHT INFRA-ORBITAL NERVE. NERVE-STRETCHING, FOLLOWED BY FOUR MONTHS RELIEF.

I am indebted to Dr. Buller of Montreal for the details of this case.

The patient, a woman 80 years of age, but looking much younger, being well nourished and of fresh complexion. Fifteen years ago she received a severe injury to the right shoulder, involving the brachial plexus, but from which she appears to have entirely recovered. She, however, dates her facial neuralgia from this period. The pain is described at times as dull, but usually of a sharp, darting nature, and is attended by extreme sensitiveness of the inner part of the right upper alveolus. All the teeth in the right upper jaw have been removed, but with little or no beneficial result. The pain, though chiefly located as described, at times affects the whole side of the face, brow and temple. The supra and infra orbital foramina are rather

more sensitive to pressure than the surrounding parts. Seven years ago she had an attack of subacute glaucoma of the right eye (painful side), for which an iridectomy was performed successfully, inasmuch as the tension has remained normal ever since, and vision, although defective, improved after the operation. The left eye has at no time shown any signs of glaucoma. On January 12th of the present year Dr. Buller says: "I stretched the infra-orbital very forcibly, but, as far as I could judge, without any solution of its continuity. Four days after, on examination, the wound was found completely healed, and all pain had ceased from the date of the operation." Her attending physician reports at this time complete loss of sensation and reflexes on the right side of the tonsil, uvula and soft palate. Twenty-five days after the operation he writes: "The operation was very successful as far as relieving the pain, but the loss of sensation already referred to still persists, and in addition there is a complaint of a wooden sensation in the region of the face corresponding to the distribution of the infra-orbital nerve. These parts are also distinctly anæsthetic." In this case, four months after the operation, there was a return of the old neuralgic pain. Six months after the operation Dr. Buller carefully examined the patient and reports: "The stiff, board-like feeling she complained of in the right upper lip and adjacent parts has disappeared. The paroxysms of pain are less frequent and less severe. She speaks of them as being quite bearable now in comparison to what she formerly suffered."

In the three cases reported we had complete relief lasting in one for fourteen months, in another about twelve months, and in the third for four months. These results, although not of a very enduring character, still are sufficiently pronounced to much more than counterbalance the slight danger and distress attending the operations performed. In each case the patient would willingly have purchased even a few weeks relief at greater cost.

A large number of cases of trigeminal neuralgia treated by nerve-stretching have been reported, but, unfortunately, the vast majority of these reports are worthless as an aid to settle the question as to the permanent value of the operation. It is very exceptional to find a case of nerve-stretching reported where very marked or complete relief has not taken place, and as the

great majority of these cases are reported within six months after the operation, they go to swell the list of alleged completely successful cases. There is no doubt, I think, that the great majority of these relapse, are not again reported, and erroneous conclusions as to the success of the procedure drawn.

I have endeavoured to obtain the result of nerve-stretching in all those cases in which the state of the patient was reported nine months and upward after the operation. It is surprising how few cases observed for this length of time are obtainable. Fully 90 per cent. are reported before six months have elapsed. In Dr. Chandler's and Prof. Agnew's collections, with the exception of one case, the longest time a patient was under observation was seven and a half months.

I have only been able to find a record of eleven cases in which the observation of the patient extended beyond nine months, exclusive of the cases I have reported. Mr. Walsham, of St. Bartholomew's Hospital, reports three cases of complete relief lasting three years, fourteen and thirteen months respectively. Grainger Stewart reports one that remained well one year after, and the late Mr. Spence reports one nine months after operation still free from pain. Lefort reports one case where relief lasted more than one year, and Lagrange three extending over three years, one extending over two years, and one over eighteen months.

It would be very interesting to have a report on all cases operated in from one to two years after the operation. There is no reason to doubt that the percentage where permanent relief is obtained is very small, probably not more than five per cent. It is contended by some surgeons that the relief obtained is not sufficient to counterbalance the annoyance of the operation to the patient. In judging this question, we must take into consideration the fact that in the great majority of cases we obtain marked relief for a few months, a relief which is a great boon to the distressed patient; and further, the operation can be repeated with the probability of a continuance of relief. If repeated nerve-stretching fails eventually to give the relief demanded, other but more severe operative measures can be resorted to.

These are the performance of neurectomy, and in the case of the infra-orbital the removal of Meckel's ganglion, and ligature of the common carotid. Dr. Fowler (*Annals of Surgery*, 1886) has collected 83 cases in which portions of one or more of the branches of the fifth nerve have been removed. In fully 25 per cent. of these cases relief from pain lasting a year and upward followed. In Wagner's table (*Archiv. für Chirurgie*) of 135 neurectomies, 18 complete cures are reported, and in 20 cases relief lasted from one to three years. There are several other cases of neurectomy reported since Fowler's and Wagner's tables have been published. Including these, I have been able to collect in all 250 cases, and I think I am safe in saying that in fully 20 per cent. we have relief extending from one to three years, and probably 10 per cent. of complete cures. The showing from neurectomy is, therefore, considerably better than from nerve-stretching, but it must be remembered that neurectomy is an operation not devoid of danger.

In Wagner's collection there were six deaths; in Dr. Fowler's, no fatal results are reported. As Dr. Wagner's cases occurred in pre-antiseptic days, the mode of operating probably accounts for the unfavourable results in so many cases. Nerve-stretching is a mild operation as compared with an extensive neurectomy, and should, I think, be always preferred to it. Another important reason for preferring nerve-stretching as the preliminary operation is that if it fails it may be repeated several times, while if an extensive neurectomy is first performed, no operation except the grave one of ligaturing the common carotid can be performed. As the great majority of cases of epileptiform neuralgia are due to central mischief, it follows that after the failure of an extensive neurectomy neither nerve-stretching nor a further neurectomy is possible.

From our present experience of nerve-stretching in inveterate trigeminal neuralgia, I believe the following conclusions are justifiable :

1. Nerve-stretching gives either complete or great relief in the majority of cases.

2. Relief is not permanent in more than 5 per cent. of cases.

3. If the pain should return, the operation should be repeated, even several times, before resorting to a neurectomy, or ligature of the common carotid.

4. If the pain is not strictly and always limited to one branch of the nerve, several branches should be stretched.

5. As relief does not always immediately follow the stretching, a second operation should not be undertaken until some time has elapsed.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

REPORT OF A CASE OF TYPHOID FEVER FROM DR. STEWART'S WARDS.

The following case of typhoid is especially noteworthy from the very unusual course of the pyrexia, the frequent falls to the normal having on several occasions made the diagnosis a matter of doubt. Looking back on the entire course of the disease, there can, we think, be no question but what the case was one of undoubted typhoid fever. In the course of typhoid it is unusual to meet with falls of the temperature to the normal, and then from the following conditions: (1) intestinal hemorrhage; (2) severe diarrhoea; (3) from the effects of antipyretics; (4) in patients with a neurotic history, especially of insanity, we sometimes meet with a temperature even below the normal and extending over some days in the course of typhoid. In such case we have, however, a semi-maniacal condition.

All the above causes can be excluded in the case under consideration, with the possible exception of the fall occurring after the second bath. Throughout the course of the disease the bowels were constipated, and there was no hemorrhage from the intestines. The mind remained clear throughout. Although antipyretics were used, they were administered in such doses and at such times as to have had little or no influence in bringing about the unusual course of the pyrexia.

The following clear account of this case is by Thos. Jameson, clinical clerk:—

Mrs. T—, aged 26, a native of England, was admitted to the Montreal General Hospital on October 31st, 1891, complaining of the usual prodromal symptoms of typhoid—severe frontal headache and indefinite bodily pains. She was a pale, poorly-nourished woman, but on physical examination nothing abnormal was discovered except a slightly enlarged spleen, which could only be detected on the most careful palpation. Tongue was dry and thickly coated in the centre with a white fur, but the edges and tip were clean. Temperature 103.5° at noon; pulse 88, full and strong. A provisional diagnosis of typhoid fever was made, and the temperature directed to be taken every two hours.

The next day after admission (Nov. 1st), at 2 P.M., her temperature was $103\frac{1}{2}^{\circ}$. A cold bath was given, lasting ten minutes; temperature of water was 72°F . The patient objected very strongly to the bath, and shivered a good deal during the bath and after she was taken out. The bath was followed by a fall in her temperature of four degrees, it being $99\frac{1}{4}^{\circ}$ half an hour after, but it did not remain down very long, for at 5 P.M. it had again reached 103° . Another bath was given, lasting nine minutes, which caused a fall in the temperature of four and a half degrees, her temperature being 98.5° half an hour after the bath. The temperature soon began to rise again, and by two o'clock the next morning (Nov. 2nd) it was $102\frac{3}{4}^{\circ}$; but at 6 A.M. it had fallen to 99° , and by 10 A.M. it was subnormal, being down to 97.5° . This remarkable fall was not accompanied by any signs of collapse; on the contrary, the patient looked bright and well, her face had lost that dull, languid expression, and she said her headache had entirely disappeared. This sudden drop threw some doubt on the diagnosis of typhoid, and the baths were ordered to be discontinued. The temperature remained subnormal until late in the afternoon, when it slowly began to rise, and by 8 P.M. reached $101\frac{1}{2}^{\circ}$. On the following morning (Nov. 3rd), at 6, it was 102° , but by 10 o'clock it had again dropped to 99° ; it reached 102° at 2 P.M., but by 8 P.M. it had again dropped to 99° .

The general condition during these three days was remarkable. She complained of no pain, was bright and cheerful, and said

she felt quite well ; but on the morning of Nov. 4th, the tenth day of her illness and the fifth day since her admission, the diagnosis of typhoid was confirmed by the appearance of the characteristic rose-coloured spots over the lumbar and lower dorsal regions. A change was also noticed in the condition of the patient ; she became dull and stupid, and her face assumed that peculiar languid expression so characteristic of typhoid. It is interesting to note that the day before the spots appeared the urine gave a very marked reaction with Erlich's test for typhoid. The day after the spots appeared the patient complained of pain and stiffness in the finger-joints and of shooting pains in the knee-joints, extending down the leg. On examination, there was found to be hyperæsthesia of both lower extremities with absence of the patellar reflexes. There was no swelling nor tenderness on pressure over any of the joints ; some spinal complication was feared, but these symptoms disappeared in a few days without any special treatment.

The temperature continued to be most remarkably irregular ; the day after the spots appeared it was down to normal, and on the second after that—the eighth day after admission and about the thirteenth day of the disease—it had again fallen to sub-normal, being at 10 A.M. 97.5° . These remissions were not accompanied by any improvement in the patient's general condition ; on the contrary, she complained of a very distressing sense of giddiness, and was extremely weak. Nor could the condition of the bowels throw any light on the remarkable temperature, for she was constipated and the bowels moved by enemata of glycerine ; the action of the bowels was not followed by any fall in the temperature.

For the next week the temperature curve touched 99° nine different times, and it reached the normal three times. These remissions were chiefly in the morning, the lowest point being generally reached between 10 and 12 in the forenoon. The evening exacerbations only reached 103° twice, the average being about 103° .

The patient now developed a bronchitis, and râles could be heard over the whole of both lungs ; cough was troublesome, but

the patient was too weak to expectorate. The skin now began to desquamate, the spots having almost entirely disappeared.

On the third week of her stay in the hospital the temperature curve assumed a more regular character; it only reached normal twice and the evening exacerbations touching 103° three times. During this week the patient began to improve, said she felt much better, and complained of being very hungry. Up to this time she was kept exclusively on milk diet, but complaining that she tired of milk, she was allowed some chicken broth.

During the fourth week in the hospital, the fifth week of the disease, the temperature became much higher; the evening exacerbations four times almost touched 104° , and the morning remissions being seldom lower than 101° . During the early part of this week a vaginal discharge occurred of a dark-brown colour, lasting for two days. Previous to her illness the patient was not menstruating, as she was nursing an infant.

The temperature during the sixth week of the disease became more of a septic type, the evening exacerbations reaching 104° and the morning remissions falling as low as 101° . On the 37th day of the disease (Dec. 1st) the temperature fell to 99° at 4 A.M., but by four in the afternoon it was 104° . The next day it did not go below 101° , but on the following morning, the 39th day of the disease, at 4 A.M., the temperature fell to sub-normal, reaching as low as $97\frac{2}{3}^{\circ}$. At 12 o'clock the evening before it was only $101\frac{2}{3}^{\circ}$, yet the patient was delirious. For four days previous to this the patient was taking ten grains of antipyrine daily at 12 o'clock noon. It had, however, but little effect on the temperature curve.

As before, no cause could be found for this sudden drop, nor did the general condition of the patient vary with the changes in the temperature. She still continued very weak, and was entirely unable to even turn herself in the bed.

On Dec. 5th, the 41st day of the disease, at 4 P.M., the temperature was 102° ; the antipyrine had been discontinued for twenty-four hours. Three grains of phenacetin ordered to be given every two hours. The first dose was given at 2 P.M.; at four the temperature was 102° ; at six the patient was asleep;



at eight the temperature had fallen to 98.5° ; by some misunderstanding the nurse gave her $1\frac{1}{2}$ grains of phenacetin at nine, and by 10 P.M. the temperature had fallen to 97.5° . At 2 A.M. (Dec. 6) the temperature was $96\frac{3}{4}^{\circ}$. Patient complained of being bitterly cold; external heat was applied, and one ounce of port wine given every three hours until 8 A.M., by which time her temperature had again reached $100\frac{1}{2}$, and she felt better. The phenacetin was still continued. By 8 P.M. the temperature was 102° , but by midnight it fell to 99° . The phenacetin was now ordered not to be given unless temperature rose to 101° .

For the next week, the eighth week of the disease, the temperature began to fall by lysis. Three grains of phenacetin was given every time the temperature reached 101° ; following each dose the temperature usually fell from one to two degrees and patient perspired a little, and quite often she complained of being cold. On Dec. 11th, in addition to chicken broth, beef-tea and gruel, which she had been taking for the last sixteen days, she was allowed some chicken. On this diet she improved markedly, her temperature remaining almost normal; her bronchitis also rapidly disappeared, and the patient seemed on the road towards a rapid recovery; but on the evening of Dec. 17th, the 54th day of the disease, the ward got rather cold, and the patient complained of being chilly. By 8 o'clock the next morning her temperature once more rose to 103° . Three grains of phenacetin was given, and by noon it had fallen to 101° , but by 2 P.M. it was again 103° ; three grains of phenacetin was given, and by four it had fallen to 101° and the patient fell into a quiet sleep, but by 8 P.M. the temperature once more reached 103° . Phenacetin was once more given, with a similar result to the above. It was now evident that there was a distinct relapse. Slight diarrhoea occurred, and the patient complained of a good deal of abdominal pain. She was once more put on milk and lime water, opiates given to relieve the pain, and one ounce of port wine given every four hours. Phenacetin was given every time the temperature rose to 101° .

For the next seven days the temperature remained high, but with marked morning remissions. On Dec. 29th, the 65th day

of the disease, at 4 A.M., the temperature fell to 97°, and did not rise much above normal, but for the next five days the morning temperatures were higher than the evening. On Dec. 22nd, the 58th day of the disease, the patient was allowed gruel and egg-nogg in addition to milk.

With the fall in temperature the diet was gradually increased, and by Jan. 2nd, 1892, the 69th day of the disease, she was once more on full diet. The patient now began to recover rapidly, was allowed up, and on Saturday, Jan. 9th, she was, at her own request, allowed to go home, it being 75 days since she first began to feel ill.

The urine in the first couple of weeks was diminished in quantity and decidedly febrile, yet it never at any time contained albumen or casts. The patient was constipated throughout, her bowels being moved by enemata of glycerine; only once, on the night of Nov. 28th, the 34th day of the disease, did she have a typical typhoid stool.

ACUTE MILIARY TUBERCULOSIS ORIGINATING FROM A DISEASED BRONCHIAL GLAND—FATAL ON THE 32ND DAY.

The following case is a typical example of acute miliary tuberculosis in its origin, symptoms, physical signs and termination. During the third week there was evidence of pulmonary consolidation, which passed completely away in the course of a few days, while at the same time the sputum contained numerous diplococci pneumoniæ. This may be taken as evidence of a croupous pneumonia complicating the tubercular process, which disappeared before death, for at the post-mortem no trace of pneumonia was found.

The patient was admitted to the hospital for tonsillitis, but it was from the very first clearly evident, from the appearance of the patient, that we had a much more serious trouble to deal with. The livid lips and disturbed breathing told us of a condition of things much more grave than tonsillitis. This respiratory disturbance was prominent for days before there was any physical evidence of disease of the lungs.

The case is a good example of how important it is to study the physiognomy of disease.

(Reported by B. F. Boyce.)

A. L., aged 20, brunette, a large muscular, well-developed young woman, entered the Montreal General Hospital November 4th, 1891, complaining of nausea, headache and sore throat. Previous to July of that year she had enjoyed good health; on the 21st of that month she entered this hospital with pain and tenderness in her right elbow and wrist joints and also a feeling of tightness in her chest. Under the salicylate treatment she speedily recovered, and was discharged August 9th, when she returned to her occupation as cook, gaining steadily in flesh and strength until the latter part of October.

During the last week of October, although without any definite ailment, she was conscious of not feeling well, but continued her work as usual. On the evening of the 30th, while over-heated and perspiring freely, she sat down to tea in the draught of an open door and window; before the meal was finished she had a feeling of chilliness accompanied by shivering; this was of short duration, and she went to bed at 10 P.M. feeling apparently quite well. Soon after she had another chill, lasting about an hour, followed by intense heat, sickness and vomiting; she vomited several times during the night, had a throbbing headache, and everything seemed to be whirling around. In the morning she was not much better, and was unable to retain anything on her stomach during the day. Next morning her throat was sore and the other symptoms were but little, if any, improved, and she remained in about the same condition until her readmittance on November 4th, when I first saw her; at that time she was lying on her left side, with knees drawn up, and had marked lividity of her face and hands, more especially of the lips, ears and fingertips, with great dyspnoea, accelerated respirations (32 per minute), a soft, rapid pulse of 108, and a temperature of 101.5°.

Physical examination of the chest revealed nothing abnormal; there was a slight enlargement of the spleen and the abdomen moderately distended with gas. Her throat was congested, the left tonsil being swollen, and the mouths of the ducts were covered

with small patches of muco-purulent secretion ; the tongue was heavily coated with a white fur, and her teeth were clean and well preserved. She was coughing occasionally and raised a small amount of muco-purulent sputum, a microscopical examination of which revealed nothing pathological. The vomiting had ceased, but anorexia and a nauseous feeling remained. Her urine was high-coloured, acid in reaction, specific gravity 1031 ; it contained 20 grains of urea per ounce, and she passed 24 ounces during the first twenty-four hours of her stay in the hospital.

From these symptoms it was clear that the sore throat was not the principal trouble, and acute miliary tuberculosis was suspected, although a careful search showed no enlarged lymphatic glands, and her family and personal history was excellent. During the first week of her stay in the hospital the sore throat and headache disappeared, but the lividity and dyspnoea were constant ; her cough became troublesome at night and her sleep was broken. A microscopical examination of blood and sputum revealed nothing pathological. An average of the respirations for the week was 34 in the morning and 43 in the evening ; her pulse was 121 morning and evening, and her temperature varied between 100° and 103°.

Early in the second week crepitant râles were heard at the lower angle of the right scapula ; next day dullness appeared in the right base, and crepitant râles were audible in both infra-clavicular and interscapular spaces. Dyspnoea was constant, the lividity not so marked ; at times a hot-water bottle was used to keep her feet warm, her appetite improved considerably, several small hemorrhages occurred from the nasal mucous membrane, and blood appeared in the sputum, which contained numerous diplococci pneumoniae (Friedländer). Her temperature was not so high nor her pulse so fast, but her respirations were faster than in the preceding week.

During the early part of the third week she seemed to be improving, but soon changed for the worse ; her cough became very troublesome and was frequently followed by vomiting ; dullness was present over both bases, and large crepitant râles were present over the whole chest ; she was losing flesh rapidly, while

the dyspnoea and lividity were becoming more exaggerated. Nothing could be found in the sputum; the temperature was more variable, the pulse slower, and the breathing faster than in the preceding week.

The fourth week was marked by rapid failure; she would take scarcely any nourishment; the dyspnoea was very distressing; her cough incessant and expectoration scanty, and contained nothing abnormal. There was no obvious change in her chest from that of the preceding week; she was very restless, and slept very little except when under the influence of morphia; her temperature was irregular; the pulse and respirations still more accelerated.

During the fifth week, no physical examination of her chest was made; she was greatly emaciated and suffered intense agony from dyspnoea, the respirations at times reaching 73 per minute; when conscious, she cried and moaned incessantly; her face and hands were a livid purple and the veins of her neck prominent. Her temperature varied from 97° to 101° ; the pulse was very fast and small, reaching 160, and at times of a running character, so that it was necessary to count it with a stethoscope over the apex. She died December 6th, after thirty-two days illness. Obstinate constipation lasted throughout the entire illness, and at no time could any bacilli be found.

Post-mortem examination.—On opening the chest the lungs did not collapse; a slight adhesion was present at the apex of the right lung, between an accessory fourth lobe and the parietal pleura; on removing the lungs numerous miliary tubercles could be seen as small glistening formations from $\frac{1}{2}$ to 1 mm. in diameter, lying under the visceral pleura; on section, they were seen to be a mass of tubercles which were distinctly larger in the apices than in the bases; there were no consolidations or cavities. The spleen, which was slightly enlarged, also contained a few large tubercles, as did the kidneys; no tubercles were found in the brain, liver, mesentery or intestines. On removing the trachea a large suppurating gland about an inch long by half an inch thick was found on the right bronchus, and a little higher another about the same size in which no degeneration had taken

place. The heart was normal, but contained large dark clots in all its chambers ; the large veins were also engorged with blood.

Histological examination of lungs by H. A. Lafleur, M.D.—There were numerous miliary tubercles throughout the lung ; most of these were single, but others were composed of two or three smaller tubercles ; one or more giant cells were present in each. In a few tubercles the central portion did not take the stain well, showing commencing caseation. There was also a diffuse tuberculous infiltration around a number of the blood-vessels ; the alveoli adjacent to the tubercular nodules contained altered red blood cells and loose epithelial cells derived from the alveolar wall.

Correspondence.

MUNICH, BAVARIA, Jan. 20th, 1892.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS,—In response to your invitation to send you a little account of my visit to the hospitals and École de Médecine of Paris, I send you the following. In doing so I feel I must apologise for its sketchy character, but I have found it difficult to know what would interest your readers most. What I have to say may at least be of some interest and help to any who are contemplating a visit to Paris in the near future.

The École de Médecine and the principal hospitals of Paris are situated on the left bank of the Seine, over in the Latin Quarter. The École de Médecine, on the Boulevard St. Germain, consists of two very handsome large buildings. The école proper contains the large lecture amphitheatres, Orfila musée, and the new library. On the other side of the rue de l'École de Médecine is the very fine École Pratique, containing all the laboratories, etc., which are magnificently equipped. The clinics and lectures are entirely free to all, there being no fees except for private courses. On the bulletin boards in the court-yard of the École de Médecine one finds all the information one needs about the lectures, clinics, etc. The new library, containing 60,000 volumes, was opened in the latter part of December, and

is very fine indeed. In the reading-room one afternoon I calculated that there were no less than 480 students at the different tables. The Faculty has about 2,800 students in all, there being quite a large number of female students, chiefly Russians, who take their clinics with the men. There are two museums in connection with the École de Médecine. The largest is the Musée Orfila, in which I noticed a very fine collection of injected specimens of the absorbent system, and a large osteological collection, all very conveniently arranged. The Musée Dupuytren is smaller and is in a very old building, once used as a monk's refectory ; it contains many very interesting specimens.

Most of the clinics take place at 9 A.M., there being none in the afternoon, so that it is rather a difficult matter to arrange one's time to the best advantage.

Being chiefly interested in obstetrics, I directed my steps to the Clinic d'Accouchement in Rue d'Assas, over which Prof. Tarnier presides. It contains over 300 beds and is a very elegantly appointed hospital, as are most of those I have seen, though I must say that as far as nurses and nursing are concerned the English and American hospitals are far ahead. Prof. Tarnier I found to be very kind indeed ; he and his chef de clinic, Dr. Tissier, gave me every opportunity to see all the work of the hospital. Prof. Tarnier's morning's work is as follows : he meets his students in the labour room shortly after 9 o'clock, and there goes over any cases that may be in progress ; this is followed by a visit round the wards. He is very thoughtful in calling the attention of the students to all cases of interest and in explaining the treatment, etc. His enormous experience makes these bedside talks of great value, and they are evidently highly appreciated by his followers, who pay the closest attention to his remarks, which are rather difficult to hear as he talks in a very low tone. After the ward visit he gives a lecture for over an hour in the theatre. I heard him give two very fine series of lectures on eclampsia and rupture of the uterus. His style is very practical and clear, but he is not at all an eloquent lecturer.

I should say that the most popular obstetrician in France is Prof. Pinard, well known for his work on Abdominal Palpation.

He has charge of the Clinique Bandeloque on Boulevard Port Royal, a hospital which contains about 100 beds. Prof. Pinard is a much younger man than Prof. Tarnier, and is full of energy and enthusiasm for his work. Most interesting cases are to be seen in his clinic, which is most brilliant and practical, and always crowded. Every Wednesday morning is devoted to gynecology, as a rule an operation taking place, Dr. Segond being the operator. I saw him one day do a vaginal hysterectomy for uterine myoma in less than twenty-five minutes, using clamps on the broad ligaments and no ligatures or sutures whatever. He always uses silver wire as sutures for abdominal cases and dry dressing, a strip of iodoform gauze being laid over the wound, covered by a pad of absorbent cotton and a binder applied very tightly. I never saw him use a drainage tube.

Prof. Budin, of the Hôpital de la Charité, is a very methodical and careful clinical teacher. His section of the hôpital has been rebuilt lately and is now a typical maternity, certainly the best managed in Paris.

The hypodermic injection of dog serum (about .05 cc. every second or third day) in cases of feebly nourished and wasting infants is being tried in Paris with very satisfactory results indeed, a great many cases showing a steady increase in weight dating from the first injection.

The operation of symphysiotomy, in cases of contracted conjugate, is likely to come into fashion again. Prof. Pinard last summer visited Naples, where he saw thirty-two cases in which the operation had been done without one bad result, the patient walking in fifteen days. He speaks very highly of the operation, claiming that a gain of at least two cm. can be obtained in most cases. He is going to do the operation on the first suitable case.

I met several Englishmen and two or three Montrealers, Laval men, who were taking post-graduate courses over here.

There are plenty of good rooms to be had in the Latin Quarter for about the same price as one would pay in Montreal, but on the whole living in Paris in winter is more expensive than at home.

I spent a couple of mornings at Prof. Charcot's clinic in that

hospital of wonders, the Salpêtrière, which is an enormous institution, containing about 3,600 beds, being a kind of workhouse or home for old women chiefly. Prof. Charcot's clinic is given on Tuesday and Friday of each week at 10 o'clock, but in order to obtain a good place one must be there shortly after nine, as the clinic is always large and the room a poor one for the purpose, being long and narrow, and most of the seats are on the level. On the platform at one end of the room were several patients, a couple of large black-boards, a large table and several chairs. On one of the black-boards was painted a table of the symptoms of Disseminated Sclerosis, or "Schlerose en plaques" as Charcot calls it, divided into cerebral, spinal and anomalous, these being subdivided into positive and negative, symptoms. Promptly at 10 o'clock Prof. Charcot came into the room, followed by his chef de clinic and a few of the house staff, among whom was his son. He took his seat at the table, half facing the audience, and then for an hour he lectured on "schlerose en plaques," using no notes, but illustrating his remarks from time to time by drawing on a black-board at his side. His style is clear and to the point; in fact he made me think of our late Dean, Dr. Howard, in the way he would act the disease before us, so as to impress upon us the symptom he was talking about. As he went along he brought forward case after case showing the different types and stages of the disease. In the second clinic which I heard him give he took up the differential diagnosis. He would place two cases alongside each other, one of disseminated sclerosis and one of some other disease, drawing our attention to the differences of the two when thus compared. From 11 to 12 o'clock he devoted to the examination of cases which had been saved for him from the daily clinic of the hospital. This was certainly not the least valuable part of the morning's work, for one could not listen to his questions and watch his method of examining each patient without learning a great deal.

An account of a visit paid to the Pasteur Institute may prove interesting to your readers. The Institute is quite a fine large building standing back from the street. On the grass plot in front is a figure of a boy struggling with a mad dog, in bronze, which typifies at least one branch of the work done in the Insti-

tute. We entered a large waiting-room at the side, which contained about sixty patients of all nationalities. I noticed among them two Arabs in their native dress, a Chinaman, a Japanese, besides several English people. The treatment is gratuitous only, so rich and poor have alike to wait their turn. The porter took our cards into the professor's room, and in a few moments we were ushered into the presence of the great man. He greeted us very kindly, and after a few remarks called an assistant, who showed us about a bit, and explained the treatment to us. A very careful record is kept of each patient, the state of the dog, site and extent of the wounds, date when bitten, date of commencement of treatment, etc., all being recorded. It seems bites about the face are considered the most dangerous. As a rule, from twenty to sixty injections in all are given at intervals of a day or two. The strength of the solution is gradually increased as the treatment goes on, the duration of the treatment depending on the site and character of the wounds. The fluid itself is an opaque milky-looking substance with but little odour. The patients come in in turn, with the clothing about the abdomen loosened so that a small area of skin can be reached on either side. The patient is held by and leans on an assistant, as most start when the needle is introduced. The site of the injection having been cleansed with a solution of carbolic acid, about 10 c.c. of the fluid is injected deeply into the tissues with an ordinary large hypodermic needle. As a rule, an injection is given on either side of the abdomen. Pasteur is a small, rather spare man, with a much wrinkled, yet kindly face, and grey hair. I was surprised to notice that he has very little power over the left side of his body, and that his speech is affected, so that it is difficult to understand what he says. This condition is the result of a "stroke" he had six years ago. The work of the institution is done by assistants, Pasteur being able to do but little.

The course of bacteriology given in the Institute seems to be very popular, for if one were to put his name on the roll now, it is not probable he could get in before the fall of 1893.

There is much more that might be told of what I have seen and heard, but I have already taken up too much of your space, so I will bring my epistle to a close.

Yours faithfully,

D.J.E.

Reviews and Notices of Books.

A B C of the Swedish System of Educational Gymnastics. A Practical Handbook for School Teachers and the Home. By HARTVIG WISSEN, Instructor of Physical Training in the Public Schools of Boston, Mass. ; Instructor of Swedish and German Gymnastics at Harvard University Summer School. With 77 illustrations. Philadelphia and London : F. A. Davis, publisher. 1891.

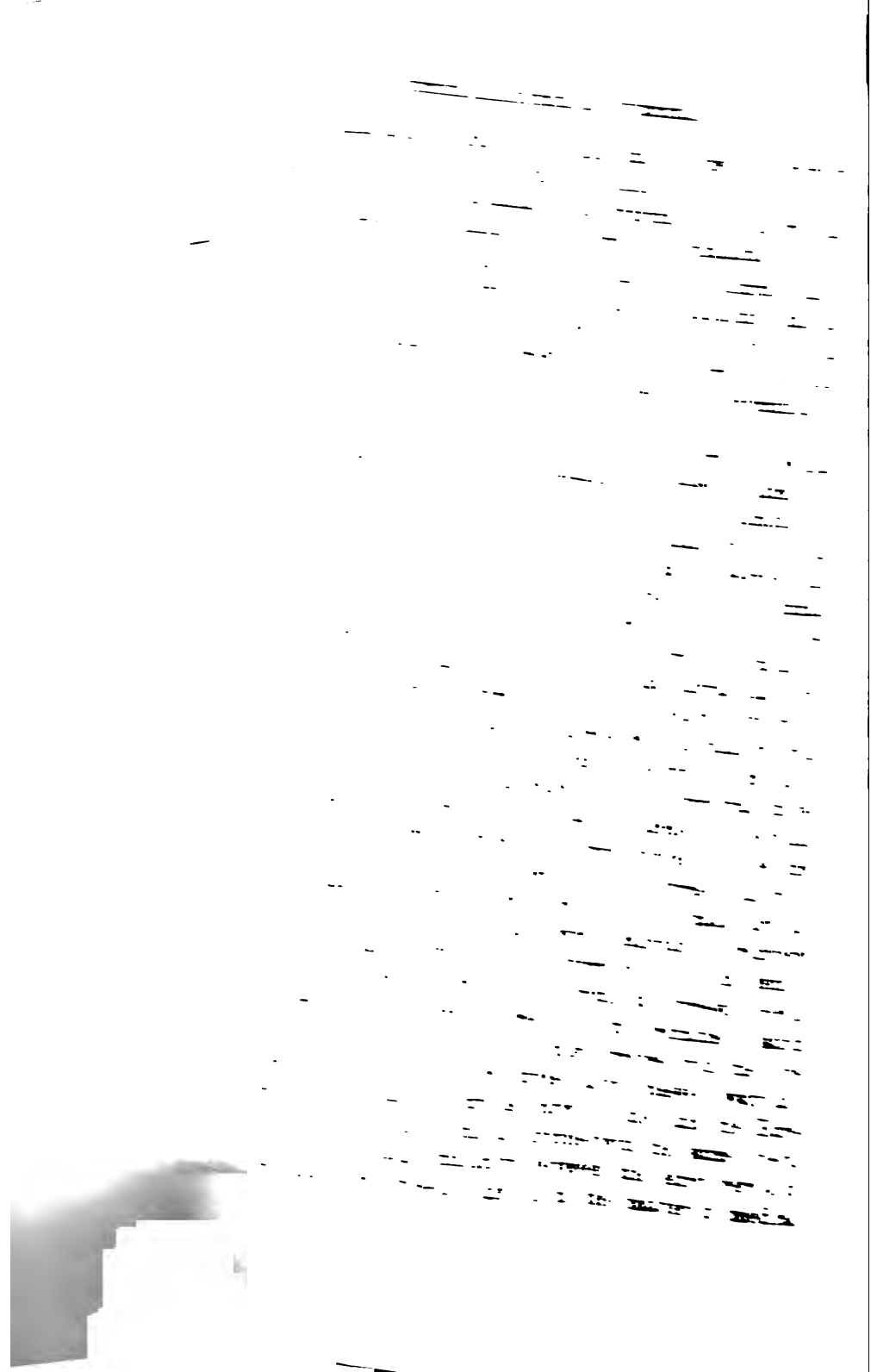
This book of about one hundred pages deals with the educational department of Swedish gymnastics as adopted in the public schools of Boston, where they now form part of the course.

The author takes up the exercises in groups of a "day's order" after the usual method in the Swedish system. Taking up firstly, *order* for attention ; secondly, *leg work* ; thirdly, *head movements* ; fourthly, *arm movements* ; fifthly, *balancing* ; and sixthly, *respiratory exercises*. This sequence is followed throughout, the exercises in each group becoming more difficult with the advancement of the pupil. The exercises are explained as clearly as is possible without personal instruction, and it would be a valuable book of reference to any one who is required to teach these movements. The work given is for children ranging from the primary school up to the grammar schools.

R. T. M.

A History of Medical Education from the Most Remote to the Most Recent Times. By DR. THEODOR PUSCHMANN, Public Professor in Ordinary at the University of Vienna. Translated and Edited by EVAN H. HARE, M.A. (Ox.), F.R.C.S. Eng. London : H. K. Lewis. Toronto : J. A. Carveth & Co. 1891.

In the work under consideration we have the first systematic attempt made to give in detail the history of medical education. The history of medicine and medical teaching is so intimately bound up with the history of civilization that the subject is one of great interest not only to the practitioners of medicine, but also to all who take an interest in or have any part in the pro-



literature of a certain kind. The medical literature of fifteen hundred years ago consisted almost altogether of concise epitomes of knowledge acquired long before. Recently the efforts of many publishing firms, on this continent in particular, have been directed towards the publication of epitomes on all the different branches of medical education. The practitioner of old demanded books of receipts; the practitioner of to-day buys a book of prescriptions before anything else.

Special chapters are devoted to the history of the development of the methods of teaching the different subjects comprised in the medical curriculum. The first effort made to teach medicine and surgery clinically was at Padua, in the sixteenth century, but the attempt proved a failure. It is to the University of Leyden that the credit is due of placing clinical teaching on a permanent basis. This was in the year 1630. "The method adopted was for the students first of all to examine the patient, then for each one to state his views upon the nature, causes, symptoms, prognosis and treatment of the disease; and last of all, for the professor to confirm the correct opinion, to confute erroneous ones, and to add any explanation required. But this procedure did not please the students, for they ran the risk of having their ignorance exposed by questions which they could not answer, and Heurne found himself obliged reluctantly to give it up, and in its place to undertake the examination of the patients himself." The Leyden clinic for many years at this period was attended by students from all parts of Europe. The first clinic in the German empire was that conducted by De Haën in Vienna in 1753.

The development of modern medical teaching occupies the greater part of the latter half of the volume. This is mostly confined to the teaching of medicine in Europe. Only a page is devoted to American medicine.

For want of space we are unable to say any more about this extremely interesting volume. The translator's work is well done. The publishers' work is their usual good form.

A Clinical Text-Book of Medical Diagnosis for Physicians and Students. Based on the most Recent Methods of Examination. By OSWALD VIERORDT, M.D., Professor of Medicine at the University of Heidelberg. Authorized Translation from the Second Improved and Enlarged German Edition. With additions by FRANCIS H. STEUART, A.M., M.D., Member of the Medical Society of the County of Kings, New York. With 178 illustrations, many of which are in colours. Philadelphia: W. B. Saunders. 1891.

In spite of the great number of works on medical diagnosis already in the market, we feel confident that Vierordt's will be gladly welcomed by the profession, as it is in many respects much more complete than any other work treating of the same subject that we are acquainted with. It not only presents the subject of physical diagnosis in a very complete manner, but also deals exhaustively with the chemical and bacteriological methods necessary for the formation of a full and complete diagnosis of disease. As chapters deserving special commendation, we would mention those dealing with the digestive apparatus and nervous system. One hundred and thirty pages are devoted to the latter. The illustrations, many of which are coloured, are well executed. Considering the great difficulty of rendering such a work into clear English, the translator has done his work. The American publisher has performed his task in a manner leaving nothing to be desired.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. ABERTT, M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania, Philadelphia. Philadelphia: Lea Brothers & Co. 1892. (288 pp.)

This book is a very judicious exposition of the methods of bacteriological investigation and the principles which underlie them, and is all the more welcome as it is the first published in America dealing intelligently with the subject. The author's training abroad under the most competent teachers of Germany and the

careful work which he has done in America have eminently qualified him for the task he has just completed. The introductory chapter deals with the salient points in the history of bacteriology, and is followed by chapters on the general biology and morphology of micro-organisms, full descriptions of the methods of sterilization, the preparation of the various culture media, the isolation and study of bacteria, inoculation methods, and post-mortem examinations of animals, concluding with a very useful reference scheme for the completed study of any individual micro organism. The second part is devoted to the practical application of the methods detailed in the foregoing pages, in the form of laboratory experiments, proceeding from the more simple and fundamental to the more minute and special. These include experiments on the contamination of cultures and on methods of sterilization, with sections on air and water analysis. The more important pathogenic bacteria are then selected for experiment, viz., the organisms of sputum septicæmia, the bacilli of tuberculosis, typhoid fever, diphtheria and anthrax, and the pyogenic organisms. Altogether this part of the work is very suggestive and eminently practical. It is easy to see that the author understands clearly and has constantly in view the difficulties which the laboratory worker will meet at each step in his investigations. The attention to principles and to minutiae of technique which is insisted upon throughout cannot fail to make the student a thoughtful and careful worker in the laboratory. H. A. L.

Essentials of Bacteriology : Being a Concise and Systematic Introduction to the Study of Micro-organisms for the Use of Students and Practitioners. By M. V. BALL, M.D., Assistant in Microscopy, Niagara University, Buffalo, N.Y. (Saunders' Question Compend No. 20.) 1891. Philadelphia : W. B. Saunders.

This book of one hundred and fifty odd pages purports to be "a concise treatise upon the practical bacteriology of *to-day*." The first half is devoted to a consideration of the morphology and biology of bacteria, staining methods, preparation of culture-media, and general bacteriological technique. In this part there is a good description of the general method of staining bacteria,

and a useful list of the principal stains with their composition. No mention is made of the "Arnold steam sterilizer" which is much used in this country and is inexpensive, neither is the very convenient use of ice in solidifying rolled cultures alluded to. The section on the pathogenic properties of bacteria and on immunity are too brief to be of any use. The illustrations of apparatus are fair. The second half of the book is devoted to brief descriptions of the more important pathogenic and non-pathogenic bacteria. With the exception of some coloured plates, the illustrations are poor. Too many species of bacteria are described considering the space allotted to this purpose, with the consequence that the descriptions are meagre and disputed points cannot be given due consideration, a defect which gives an *ex cathedra* tone to this part of the work, and would hence, we think, give to the student the idea that the study of systematic bacteriology was perhaps not such a difficult matter. The book is one of a type to which we have frequently drawn the attention of our readers and which can serve no useful purpose. To the student working in a good laboratory under experienced teachers it is superfluous, and it is impossible to conceive that the practitioner could with its assistance become acquainted with the *principles* of bacteriology, without which practical work in this department of medicine is an impossibility. The author makes a grave admission at the end of the book: "we are conscious of the very superficial manner in which this has been done. We excuse ourselves, however, on the ground that this work is but a wedge with which to enter upon the study, or, for those who do not care to proceed further, an eminence from which a fair view of the ground can be obtained." Why work with poor tools: and of what value is superficial knowledge? H. A. L.

Notes on the Examination of the Sputum, Vomit, Fæces, Urine and Blood. By SIDNEY COUPLAND, M.D., F.R.C.P., Physician to the Middlesex Hospital, and Lecturer on Practical Medicine in the Medical School. Second edition. London: H. K. Lewis. 1891.

This little volume is valuable to practitioners and clinical clerks. It gives a good account of the chemical, microscopical and bac-

teriological examinations necessary for the diagnosis of disease. The work is one which we can confidently recommend, and as it costs only thirty-five cents, it should be in the hands of every one who is desirous of keeping up to the most recent methods of clinical investigation.

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cation, Poisons and their Antidotes, Diameters of the Female Pelvis and Foetal Head, Diet List for various Diseases, Obstetrical Table, Materials and Drugs used in Antiseptic Surgery, etc. By William M. Powell, M.D., author of "Essentials of Diseases of Children," Attending Physician to the Children's Seashore House for Invalid Children, and the Mercer House for Invalid Women, at Atlantic City, N.J., Member of the Philadelphia Pathological Society, etc. Philadelphia, W. B. Saunders. 1891.

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Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 18th, 1891.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Sarcoma of the Testicle.—DR. LAFLEUR exhibited the specimen of a testicle uniformly enlarged, surface smooth, and tunica thickened. On cutting it open some soft substance bulged beyond the tunica. On section, the thickened tunica is seen with a new growth, consisting of sharply circumscribed areas of a dull yellow colour, while a grumous material filled up the spaces between these areas. Microscopically it is a round-celled growth, the cells being a little smaller in size than leucocytes, and have deeply-staining nuclei. Mixed in with the fibrillated substance there are spindle-shaped cells with oval nuclei. The yellow areas consist of necrotic tissue, are structureless, and do not take the stains. The softer portions consist of a broken-down mass of detritus with cells here and there that will take the stain. He could give no history of the case, but from the appearance of the testicle the disease was probably of very rapid growth.

Cancer of the Lower Jaw.—DR. HINGSTON exhibited two lower maxillæ which illustrated the two modes of invasion of the disease. In the first case the disease had begun in the bone

itself, and in which the loss of substance was about the size of a finger, and had slightly involved the submaxillary gland. In the second case the disease had appeared on the outer surface of the bone as a result of extension from secondary disease of the submaxillary gland, a cancer of the lip having been removed a year before. When the disease begins in the bone itself the patient has a very much greater chance of recovery than when it is due to extension from the gland. He thought that he had better results after the operation for removal of the jaw for cancer in well chosen cases than he had after removal of the breast. In one case he had removed the upper jaw and there was no return. In another case where he had removed the upper jaw the patient died of old age. It is necessary to make a clean sweep of all the diseased parts to have a satisfactory result.

Dislocation of the Astragalus.—DR. HINGSTON exhibited a specimen and related the history of a complete enucleation of the astragalus. The patient, a powerful young man, got his foot caught in a strap in close proximity to a circular saw, and on making a very violent effort to escape produced this peculiar condition. There was a large projection on the inner side of the foot, over which the skin was very much torn, and by simply enlarging the incision and with the aid of the bone forceps the astragalus was removed. There was also rupture of the tendo-Achillis, but the malleoli and the other bones of the tarsus were uninjured.

Enlarged Spleen.—DR. HINGSTON related the history of a woman from whom he had, two weeks previous, removed the spleen, which weighed 13 lbs. The organ extended down into the pelvis and in front beyond the middle line, and had been of slow growth. The operation had been performed at the urgent request of the patient, and Dr. Hingston did not think that it was an operation he would care to repeat. After separating the connections with the stomach and liver he came down on the pedicle, which was found to be very short, it being necessary to encroach on the substance of the spleen before a sufficient hold could be obtained on the vessels to cut them, the pedicle that

was removed with the spleen being only three-quarters of an inch in length, consisting of the remains of the splenic artery one-quarter of an inch and the cæliac axis half an inch. The substance was very friable and was easily torn, consequently hemorrhage was very great. The patient died seven hours after the operation. The removal of the spleen when there is an impoverished condition of the blood, when the white corpuscles are in excess, is not a successful operation.

DR. SHEPHERD did not think that primary cancer of the lower jaw was common. When a growth started about a tooth it was usually an epulis. He had removed many jaws, but had only one that did not recur, and asked if a microscopical examination had confirmed the diagnosis of cancer. He agreed with Dr. Hingston in regard to the bad prognosis in cases like the second. He had had three cases of removal of the astragalus for dislocation; in one case the man had a compound fracture of the opposite leg to the one in which the dislocation occurred, the result being an equal shortening of both legs. The spleen usually has a very long pedicle. He cited a case of removal of the spleen performed by Dr. Roddick in 1885 for severe laceration, part of the injured organ protruding through a wound. The patient died several hours after, when it was found that both the liver and kidneys were ruptured.

DR. HINGSTON, in reply, said that a microscopic examination had confirmed the diagnosis of cancer. As a surgeon, he would rather trust to his sense of sight and touch, even if such an examination was not confirmatory.

DR. LAFLEUR cited a case in which the tongue had been removed for supposed cancer, which on microscopic examination proved to be tuberculosis, and the patient died two weeks after the operation with acute miliary tuberculosis.

Nephro-Lithotomy.—DR. SHEPHERD exhibited a large *branched kidney calculus* which he had removed a week before from a lady aged 50. She had suffered from symptoms of stone in the kidney for some thirteen years, and recently, after an attack of renal colic, a tumour developed in left loin and pus ceased to appear in the urine. The temperature ranged from 101° to 105°, with

rigors and sweatings. On cutting down in the left loin the kidney was found perfectly movable. When incised a large amount of pus escaped, and on introducing the finger a branched calculus was felt in the pelvis of the organ and with difficulty extracted, as some of the branches breaking off remained encysted and were very hard to enucleate. The kidney was very much disorganized, and was of large size. The patient, at the time the report was made, was doing very well, and the temperature was perfectly normal. Dr. Shepherd remarked that he had previously removed the kidney for a similar condition, but now he preferred to remove all the stone, break open all pus pockets, and then drain freely. In this way what remains of the kidney substance continues to do its work, and the patient's chances are so much the better in the future in case the other kidney becomes similarly affected. In addition to this reason, he stated that nephro-lithotomy was a much less dangerous operation than nephrectomy. Dr. Shepherd related a case where he had removed one kidney for calculous pyelitis, and four years after the other kidney became disorganized from the presence of a calculus. Operation was refused because patient had only one kidney, and she died uræmic a few days after entering hospital.

Placenta Prævia.—DR. SPRINGLE gave the history of the case. (See page 572.)

Two Cases of Nephro-Lithotomy.—DR. SPRINGLE exhibited the calculi and gave the histories of the cases, which will appear in our next number.

DR. SHEPHERD congratulated Dr. Springle on his diagnosis. He had on several occasions cut down on the kidney for pain and found nothing, but at a subsequent operation he discovered a stone. In the case where pus still continues to be present in the urine, he thought that some fragments of stone must still be present in the kidney, and advised further exploration.

DR. ARMSTRONG said that cutting into a healthy kidney was a new operation; that the diagnosis is often difficult, and failure to find the stone does not indicate an error of diagnosis, for it may be discovered at a subsequent operation.

Stated Meeting, January 8th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Anatomical Anomalies.—DR. SHEPHERD exhibited the following:—

(1) A case of *Persistence of the Right Aortic Root* in a female. In this case the right subclavian artery arose from the descending arch of the aorta and passed up to the first rib behind the trachea and œsophagus. The fourth arch having disappeared, there was no recurrence of the inferior laryngeal nerve round the subclavian. The nerve passed directly to the larynx.

(2) A *Skull*, in which there was a well-marked *par-occipital process* on each side of the occipital bone. This condition is normal in many carnivorous and graminivorous animals, but is of rare occurrence in man. This process is the homologue of the transverse process of the vertebræ, and usually exists as the jugular process.

(3) A *Sternum* with well-marked *ossa suprasternalis* united by ligaments to the sternum and covered with cartilage. These bones are vestiges of the episternal bones of monotremes and lizards, and are of great rarity in man, this being the first specimen Dr. Shepherd had seen. It is supposed by morphologists that the meniscus seen in the sterno-clavicular articulation represents a remnant of this bone.

(4) A case in which there were large patches of *calcification on the dura mater*. No history.

(5) A case of *Rheumatoid Arthritis* involving the joint between the odontoid process of the axis and the anterior arch of the atlas. A large mass of bone is thrown out around this process from the anterior arch of atlas, forming a cap for the upper end of the odontoid. No history.

Lymphatic Leukæmia.—DR. LAFLEUR exhibited specimens of glands from a woman aged 50, who had suffered from rapid anæmia and glandular enlargement in the neck; no positive diagnosis had been arrived at before death. At the autopsy, on opening the abdomen the spleen was seen projecting three inches below the costal margin, and it measured about thirteen inches

in length, six or seven in breadth, and four in thickness ; was soft and the pulp diffuent ; the colour was normal, and no growth was found in its substance. The glands all over the body were enlarged, and were similar in all the situations. They were isolated, smooth, and rather soft. On section, they were of a pinkish-red colour, while a number showed ecchymoses. From the medullary spaces of the sternum and ribs a light reddish semi-fluid material could be compressed. There was no opportunity of examining the marrow of the other bones. No other notable changes were observed. The liver was normal in size ; there were no lymphoid nodules. The kidneys were slightly hypercemic. No examination of the blood had been made before death, and the blood obtained at the autopsy was disorganised ; all that could be made out was a moderate increase of white cells. In the pharynx the lymphoid structures were swollen ; the lingual tonsil and tonsils stood out as prominent white tumours, and were ulcerated on the opposing surfaces. In both the glands and spleen there was simple hyperplasia of the lymphoid cells. The question arose, Under what head should this condition be diagnosed ? Lymphatic leukæmia, rapidly-growing sarcoma, or Hodgkin's disease ? As the condition of the blood was not known it is difficult to make a positive diagnosis. The characters and enlargement of the glands are like those seen in Hodgkin's disease, yet there were no lymphomatous nodules present in the spleen.

DR. SCHMIDT, who had attended the case, said that he had been called to see the patient about eight days before death. She was a widow, aged 62 years, and for two months had been suffering from symptoms referable to the stomach, vomiting and pain. He found her in bed suffering from weakness and dyspnoea, with expression of much suffering ; dry, sallow skin, and unable to lie on the right side on account of the pain produced in the left. Liquid food only could be taken. A tumour was felt in the epigastric region extending from under the ribs to almost the level of the umbilicus, and was tender to the touch. The right leg was much swollen. A few days before death a sore throat was noticed, which was, to all appearances, of the nature

of diphtheria. The tonsils were covered with a thick yellowish-white membrane, and here and there on the mouth were small white patches, probably of an aphthous nature. Only one record of the temperature and pulse had been taken, and that a day before death, the temperature being 99.4° and pulse 108. At this time she passed a black stool mixed with some bright blood. Glandular enlargement in the neck was only noticed two days before death. From the general appearances, Dr. Schmidt thought that it was probably a case of cancer of the stomach.

Ulcerative Endocarditis.—DR. LAFLEUR exhibited a very typical specimen of this condition. The patient, a negro, aged 40, had an attack of rheumatism (the first attack) six months before, and had been in the hospital for three months. Clinically there could be detected signs of an endocarditis with insufficiency of both aortic and mitral valves. At the autopsy there was found hypertrophy and dilatation of both ventricles and left auricle, the hypertrophy about compensating dilatation. There was old disease on the mitral valve, while on the ventral flap was a large vegetation, having a hole in the centre, and to it was attached a large fibrinous clot, which was divided into threads at the end, caused by its flapping backwards and forwards in the blood-stream. There is an erosion and rupture of the tendinous cords attached to one of the papillary muscles, which is very characteristic of malignant endocarditis. There is general thickening of the aortic valves, with vegetations where the valves touch each other. There is a distinct loss of substance, which is encircled by a rim of vegetations. There were no septic emboli found in any part of the body. This is rather unusual, as the proportion of non-embolic to embolic cases is small. Other lesions in the body were those of chronic heart disease. The immediate cause of death was a lobular pneumonia.

DR. MILLS asked if the pneumonia could be traced to the condition of the heart.

The PRESIDENT said that it is not an infrequent occurrence to come across an embolus of the central artery of the retina, and he could not think that this vessel could be the only one singled out. He had seen cases which had been so diagnosed

when no changes could be found in the heart or vessels, and thought if the diagnosis was correct there must be some further explanation of the occurrence of these emboli.

DR. LAFLEUR, in reply to Dr. Mills, said that there was no evidence connecting the pneumonia with the heart lesion. In answer to Dr. Buller, he said that the only explanation he could give was that the ophthalmologist takes much greater notice of minutiae than the general practitioner. There may be many emboli all over the body which could not be diagnosed except by such direct examination as by the use of the ophthalmoscope.

Multilocular Ovarian Cyst containing Bone and Cartilage.—

DR. E. A. MCGANNON of Brockville exhibited the specimens, which he had removed from a girl of 16 on Dec. 30th, 1891, and gave the following history of the case :

The patient had always been healthy, though somewhat anæmic for the last two years. Menstruation began at 14½ years, had always been regular and of the twenty-eight day type, flow lasting for three days, being scanty and without pain. She first came under my notice complaining of lancinating pains in the left inguinal region. On examination, an abdominal tumour was found, which I diagnosed as ovarian. Consent was withheld until a short time previous to the date of the operation. The patient was then put into the St. Vincent de Paul Hospital and subjected to the usual preparation for abdominal section. On Dec. 30th, assisted by Drs. M. C. McGannon, T. F. Robertson and J. W. Lane, I opened the abdomen and removed the specimens now presented. The pedicles were ligated with silk and the stumps carefully covered with peritoneum, catgut being used in this procedure, and then dropped. The abdominal wall, as a whole, was taken up by silkworm gut sutures, but before tying them each layer of the wall was brought together with catgut. The patient made an uninterrupted recovery, the temperature reaching on one day only 99½°.

I must ask your pardon for thus going into some of the details of this operation when presenting a specimen ; but I desire to invite discussion on some points of interest other than those presented by the specimen. First as to the specimen. The larger

of these tumours was taken from the right side, and, as you see, is a mixed tumour, being a multilocular cyst containing cartilage and bone—a rather rare variety of tumour, and one that I believe occurs oftenest in women of from 15 to 25 years. The smaller tumour, taken from the left side, is simply a cystic ovary showing well the marks of ovulation. This patient began to menstruate only eighteen months ago, yet these ovaries have been active and these tumours have been developing much longer than eighteen months, which is, in my opinion, strong evidence in support of the theory that ovulation has little to do with menstruation, and goes on long before that function is established. Second, I would invite criticism on the utility of carefully covering the stumps with peritoneum, thereby avoiding adhesions. Third, as to the closing of the abdominal wound. Hernia following laparotomy or abdominal section is, unfortunately, not rare, and is a very embarrassing sequela. It is no doubt frequently, if not always, due to some particles of fat or muscle getting between the fibrous layers of the abdominal wall and preventing their union. Primary union may occur in the skin, but the skin is an elastic tissue and plays no part in supporting or keeping *in situ* the abdominal contents. It is very essential that good union should be had between the fibrous layers, and to this end they should be brought together. The time is coming, if it has not already arrived, when hernia following abdominal section will be charged (and properly so) against the operator who neglects to thus close the abdominal wall. The sutures through the whole act as supports or splints, and though silkworm gut is efficient, silver wire, in my estimation, would be better.

DR. WM. GARDNER considered the specimen of great interest, as such a condition is very rare. There is nothing of the dermoid nature about it. He had removed many dermoids, but had never come across a cyst containing bone and cartilage. It is very generally admitted that menstruation may exist independently of ovulation; the persistence of menstruation after the removal of the ovaries may be accounted for by some portion of the ovarian stroma being left behind at the time of the operation, or that ovarian stroma may have existed in some other situation

as between the layers of the broad ligaments. It often, unhappily, occurs that menstruation and pain are not relieved by the removal of the ovaries. Regular menstrual discharge also persists in double ovarian tumours, due, probably, to some of the stroma remaining unaffected. In regard to the technique suggested, he thought it a very complicated method. In his experience hernia is exceedingly rare, and he had never taken such precautions. Mr. Tait, in a lecture which appeared in a recent number of the London *Lancet* (Sept. 12, 1891), laid great emphasis on *not* making the incision in the linea alba, but on opening the sheath of one of the recti muscles, and by this procedure claimed that the danger of hernia is lessened. He (Dr. Gardner) simply repeated the statement, but was not able to confirm it. If a splint was needed for the abdominal incision, he thought silkworm gut was infinitely superior to catgut, as it could be buried and would be permanent. Speaking of catgut as a material for ligatures, he said that he had, during the last few months, used a large quantity of it, and it had never showed any evidence of setting up trouble. He had much more confidence in it now than formerly, and in plastic operations on the vagina nothing was equal to it.

DR. MILLS said that in the lower animals, what corresponded to menstruation is always associated with ovulation, and he thought that as the process of civilization had produced disturbances of the menstrual function, so there may also be a more or less dislocation of the two processes. Again, as the genital organs constitute a complex whole governed by a complex nervous mechanism, there may be other influences that tend to bring about menstruation independent of the reflex action from the ovaries. Periodicity may also account for the appearance of menstruation after the removal of the ovaries.

DR. SHEPHERD thought that the tumour was congenital; it was something like a tumour he had seen in the floor of the mouth. As for closing the abdominal wound with buried sutures, it was very good in theory, but he did not know if it had been proved that hernia never occurred after such a proceeding. He had had only one case of hernia following abdominal section, and

that was in a case where there was a large stinking abscess about the appendix, which was plugged with gauze and allowed to heal by granulations. In using catgut, he never felt sure that it was aseptic. He preferred the finest silk for buried sutures, and thought that it was the safest material that could be used.

Stated Meeting, January 22nd, 1892.

WESLEY MILLS, M.D., IN THE CHAIR.

Carcinoma of the Ovary.—DR. ALLOWAY exhibited the specimens and gave a detailed account of the case, which appears on page 561.

DR. LAPHORN SMITH congratulated Dr. Alloway on his presence of mind. He said that it was formerly the custom to apply a tight binder about the abdomen to prevent the blood flowing into the large abdominal veins after the pressure of the fluid or the tumour had been removed, and thus increased the pressure in the coronary arteries. He thought that the salt solution in this case acted in the same way.

DR. W. GARDNER could not explain why collapse had come on so long after the operation. He asked why Dr. Alloway had used such a strong salt solution; that which he was accustomed to use was very much weaker. He noticed that the ovaries were very small for this condition, and asked Dr. Alloway if he thought that the disease was primary in the ovaries, with secondary deposits in the omentum and retro-peritoneal glands. He had had a number of cases of carcinoma of the ovary with ascites, but always found the organs markedly enlarged.

DR. ALLOWAY replied that he thought the disease was primary in the ovaries; he could give no reason for their being small. The disease appears in both ovaries nearly twice as often as in one. The only explanation he could give for the syncope not occurring at the time of the operation was the stimulating effect of the ether, and when that passed off the diaphragm dropped and removed support from the vessels, and the patient was literally ~~blown~~ to death within her own veins. In carcinoma the

ascitic fluid is poured out and is not absorbed, because the lymphatics are blocked.

DR. J. E. MOLSON asked how, then, was the salt solution absorbed?

DR. ALLOWAY said that the salt solution was much more absorbent than the grumous ascitic fluid.

DR. MILLS was glad Dr. Alloway did not explain the absorption of the salt solution on the theory of osmosis; he had always opposed this theory, and thought that before very long it would disappear from physiology. Would the saline fluid be so rapidly absorbed as to raise the blood-pressure and to cause the heart to act so much better? He rather favoured the view that the warmth acted as a stimulant to the nervous system, for in experimenting on frogs' hearts, if, after the heart has ceased to beat, salt solution is run through it, it will be stimulated into activity. The stimulating effect of the warm bath is familiar to all. He thought that sterilized water would have acted in a similar manner. He looked upon the ascitic fluid as an excretion, and being such could not be absorbed again.

Ovarian Cyst and Chronic Salpingitis.—DR. A. L. SMITH exhibited the specimens and read the following report of the case:—

Mrs. B., aged 41, was sent into the Woman's Hospital by Dr. England. She came under my care there on January 1, 1892. She was a tall, rather thin, but wiry-looking woman, and bore on her face the traces of prolonged suffering. She was married, the mother of six children, and had her last child six years ago. She had no miscarriages. Menstruation had been normal as a girl; since marriage it had been normal, but for the last six years it has been exceedingly painful, irregular, and profuse. She enjoyed fairly good health until three years ago, when she was taken ill with inflammation of the bowels (pelvic peritonitis), which confined her to bed for seven weeks, five of which were in hospital. She has never been a day well since. Locomotion has been painful, and there has been unbearable dyspareunia. She was unable to work, and had to spend the most of her time in bed or lying around. On examination, the cervix was found

to be lacerated and hypertrophied, but slightly movable; the fundus was firmly fixed. Just above the cervix, in Douglas' pouch, there was a sharp angle, into which the finger tip could be introduced, and above that a large, round, sensitive swelling which felt like a retroflexed fundus. Pressure on this caused a sickening sensation and the sound entered the uterus forwards. All above and on both sides of the uterus the pelvis was filled with a hard mass which could not be moved. Diagnosis before operation was, therefore, pyosalpinx with local peritonitic effusion binding down the ovaries and tubes in Douglas' cul-de-sac.

Operation.—After several days of preparatory treatment—hot baths, purgatives, hot douches and dieting—the patient was anæsthetised with the A.C.E. mixture at 12.30 on the 9th Jan. Dr. England assisted me, and there were present Drs. Campbell, Reddy, Bruère, and the members of my class. The abdomen was shaved and scrubbed with soap and water and bichloride. A three-inch incision was made in the median line, and on introducing two fingers of my left hand into the abdomen I found the true pelvis walled off from the rest of the abdominal cavity by a false membrane, which I had to go through in order to reach the uterus on the left side. My finger then came upon a fluctuating sac about the size of a small orange which was continuous with the tube. With the greatest difficulty I managed to dig this out of the mass of adhesions in which it was buried, which I had to dissect with my finger until I reached the bottom of Douglas' pouch. The cyst proved to be the ovary with the tube enlarged and adherent to it. On the right side, deep down, I dug out without much difficulty what proved to be a coil of small intestine. On trying again I brought up the very much thickened right tube, which I ligated and cut off. The right ovary seemed normal, and I therefore left it. The cut ends of both tubes were touched with Paquelin's cautery. The peritoneal cavity was then flushed with a gallon or two of boiled water at 110°F. until it came fairly clear; some of this water was left in. A long glass drainage-tube, open at both ends and perforated on the sides, was introduced to the bottom of Douglas' pouch, and the abdominal incision was closed with six silkworm gut sutures

passed through the entire wall three-quarters of an inch from the edge. The drainage tube was fastened to the nearest of these stitches and filled with a strip or wick of sterilized gauze. The wound was then buried in a thick layer of boracic acid and a dressing of gauze placed over it, the drainage tube being closed with absorbent cotton. The vomiting after the operation was very severe, and persisted for several days. The tube was removed at the end of forty-eight hours, and was found to be full of coagulated bloody lymph which the wick had failed to aspirate. Efforts were made to move the bowels with Rochelle salts at the end of twenty-four hours, and were repeated every four hours for two days before anything passed through. A great many things were tried to stop the vomiting, but what succeeded best was one grain of calomel and five grains of bicarbonate of soda every hour. A turpentine enema and turpentine stupes brought away the first wind and promptly reduced the commencing tympanitis. I allowed her one small hypodermic of Battley immediately after the operation, and the house surgeon gave her another the second night. After that the pain was relieved with hot fomentations, which were very effective. The temperature has been $98\frac{1}{2}^{\circ}$ most of the time, except on the evening of the fourth day, when it rose to $101\frac{1}{2}$, and two or three other times when it reached $100\frac{1}{2}^{\circ}$. This is now the fourteenth day and there is every prospect of her recovery from the operation.

DR. A. BRUERE gave the following report of the microscopical examination: The transverse sections of the tube reveal round-celled infiltration of the fibrous connective tissue of the mucosa. In many of the folds of the mucous membrane these cells have undergone fatty degeneration, and fat globules and detritus are to be seen. The ciliated epithelial cells lining the mucous membrane have undergone proliferation in some places. Several layers of non-ciliated epithelial cells, irregular in shape, are to be seen. Between the circular and longitudinal layers of the muscular coat the fibrous tissue is more dense than normal, but there does not seem to be any atrophy of the muscular elements. In the serous coat most of the small veins and capillaries are distended with blood, and there are also extravasations of blood.

A large number of small round cells are to be seen in some parts of the fibrous tissue. Dr. Bruère showed several of the sections under the microscope.

DR. ALLOWAY asked Dr. Smith why he removed the right tube and not the right ovary. The object of the operation was to bring about the menopause.

DR. WM. GARDNER also thought that the ovary should have been removed. He did not think that the menopause would occur. He said that he had repeatedly found blood-clot in the drainage tube, and he preferred the sucking method of cleansing it. There is a decided reaction going on against the drainage tube. Howard Kelly had not used it in his last forty cases, as he had learned to trust more to the power of absorption possessed by the peritoneum. If the use of the drainage tube can be avoided the patient will be in a much safer condition, for it is a source of danger, being liable to become infected. Abdominal surgery of the present day without the drainage tube is not what it was ten years ago without the drainage tube, for we have learned that if the peritoneum is aseptic it may be trusted to absorb any blood that may escape into it.

DR. SMITH, in reply, said from his experiences in a former case, where the character of the woman towards her husband had been entirely changed by the removal of the ovaries, he thought that by leaving the ovary or even a portion of one there would be enough to keep up the physical traits of sex, and he hoped that by so doing in this case the pelvic symptoms would be relieved and her character would remain unchanged.

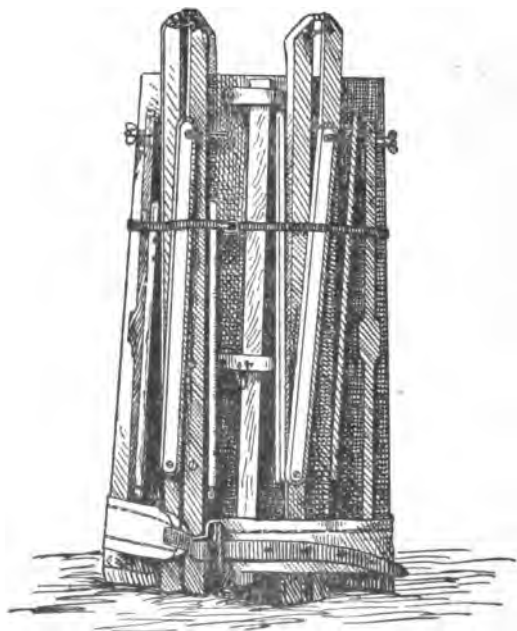
DR. ALLOWAY said that it is a well known fact that the removal of the ovaries has nothing more to do with the change of character than is seen in a woman years after the menopause.

DR. MILLS thought the question was of great importance. It should be definitely settled whether a surgical operation modifies the function or not. Castration changes the nature of a dog very much more than the removal of the ovaries affects a bitch, and he regards it as an illegitimate procedure.

A New Portable Laparotomy Table.—DR. LAPHORN SMITH exhibited a table of his own invention. He said that when a

surgeon is suddenly called upon to perform laparotomy in a private house, the first requirement is a *clean, narrow* table, and this is seldom available. He thought it was desirable for the laparotomist to bring his own table with him. Such a table must be of so small a compass that it can be placed in a carriage, and though strong enough for its purpose, should be light in weight, and should not be expensive. As certain steps of the operation are to be performed in the horizontal position and others in the Trendelenburg position, it is necessary that this table be so constructed that the change in position can be readily made. The table, which he showed, possesses all these requirements. It is made of a pine ironing board, one inch thick, cut in the middle, and hinged so as to fold up, measuring six feet long when open and three feet when closed. It is 18 inches wide at the top and tapers down to 12 inches at the bottom. A sliding bar three feet long, made of hard wood, gives increased strength at the joint. The legs are made of inch and a half pine, and can be folded up; when opened out they form a sort of wooden horse, three feet high, on which the table is balanced on a pinion, like a pair of scales, so that the head can be raised or lowered with the slightest pressure. Two iron bolts fasten the top of the table to the legs, and are provided with thumbscrews, which can be tightened up in a moment. The table is prevented from teeter-tautering by means of two folding bars fastened at one end to the head of the table, the other end passing through a notch in legs, where they are fixed in any position by steel pins passing through them. The legs are stayed with folding bars, one end being provided with a slot which passes over a screw head in the leg opposite to the one to which it is attached. As to strength, the table had been several times tested with persons weighing over 200 lbs. lying upon it. As to lightness, it weighs altogether only 30 lbs. It folds up so small that it may be easily carried in the hand or under the arm. It is provided with a strap of broad webbing which not only serves to bind the legs and the table together when being carried, but also to fasten the patient securely to the table. The greatest claim to originality is the *low cost*. Cleveland, Edebohls, Trendelenburg and Föerster

have each invented tables, but they are not only too heavy and bulky to be portable, being made of iron, but they are exceedingly expensive, costing from \$35 to \$150. With this description and the accompanying engravings any carpenter can make



the table for about \$5. Therefore its cheapness is as valuable a quality as its comparatively great strength and portability.

Friedrich's Disease.—DR. SCHMIDT regretted that he had not been able to obtain permission to bring the patient, an inmate of St. Bridget's Home, before the Society, but gave the following history of the case :—The patient, a girl of 21, suffers from a train of nervous symptoms. Her mother died fourteen years ago, having been paralyzed for some time ; father died three years ago of influenza ; one sister is affected in the same way as the patient, and is at present confined to bed ; a female cousin cannot walk, and has clonic contractions of the face and hands ; and one brother died of consumption. She first noticed difficulty in walking nine years ago. She now walks with great difficulty, the gait being very ataxic, feet wide apart ; the whole foot touches the ground at the same time. She looks continually on the ground, the body being bent forwards. Movement of the hands and arms also ataxic. Speech is scanning and is difficult to understand. Tremulous movements of the tongue when protruded. Slight nystagmus, but no other eye symptom discovered ; pupils dilated. She can stand alone with the eyes closed, though vacillating ; when sitting she moves continuously. Sensibility of the skin unaffected. Sometimes has pains in the hands, but pain along the spine is almost constant. There is a slight left lateral curvature of the dorsal region of the spine, the hollow of the lumbar region almost obliterated. There is loss of patellar tendon reflex ; no ankle clonus. She sleeps well and her mental condition is good.

Selections.

AN ADDRESS ON SOME OF THE MORE UNUSUAL PHENOMENA OF EPILEPSY.*

By S. WILKS, M.D., F.R.S.,
Consulting Physician to Guy's Hospital.

I need scarcely remark how unsystematic is our nomenclature of disease. Some diseases have for their appellations an anatomical basis, whilst others are named after a group of symptoms, or, rather, after the most prominent of the symptoms. This method is more satisfactory than the other, as it does not tie us to any pathological fact from which there is never afterwards any escape. If we see a combination of symptoms, which is repeated over and over again in different persons, we are warranted in giving a distinct appellation to that group. Having done this, we ask ourselves, Are we bound to require the presence of every one of those symptoms to constitute the disease? We say no; but then comes the more difficult question, Which are the essential ones? Take, for example, exophthalmic goitre? we have all agreed to give this name in any particular case, even if the eye is not affected, the other symptoms of the disease being present. We have also agreed to do the same, under like circumstances, even if the thyroid be unaffected. I myself go further than this, and believe I see the same affection when neither throat nor eye is involved, so that we have in fact the play of *Hamlet* without Hamlet. When I see, for example, a patient much wasted, with very quick pulse, sweating, etc., and relieved by the same remedies which cure Graves's disease, I believe I have pathologically this complaint to deal with.

Now, as regards epilepsy. No disease is more characteristic in its typical form—that is, where a person falls down with a loss of consciousness, followed by convulsions, and terminating in a deep sleep. One of our latest writers, and I should also say in this (Guy's) hospital, a great authority—I mean Dr. Frederick Taylor, in his *Manual of Medicine*—still keeps to the definition.

* Read at a meeting of the South London District of the Metropolitan Counties Branch of the British Medical Association.

There is no doubt that as a definition, and applicable to the majority of cases, this is good ; but when one takes in the whole field of possible examples of the disease we find a difficulty in so restricting the name. That the definition is generally good is seen from the fact that where a local lesion is found in the brain, which is not the case in ordinary epilepsy, there may be no loss of consciousness during the fit. So it may be said we have a different disease to deal with. And yet it is this very case which prevents us adopting the definition ; for even should there be a local disease, as a gumma, it not infrequently happens that the convulsions are general, and the unconsciousness is complete. It would therefore be difficult to separate two cases, because the symptoms vary when the anatomical basis is the same in both. I believe, therefore, the highest authorities would not deny the use of the term epilepsy, even if the convulsion were partial, and no loss of consciousness occurred. The loss of consciousness has always been considered the most important symptom of the two, and all writers have included the *petit mal*—the case where there is a sudden loss of consciousness and no other symptom—under true epilepsy. So that, as in exophthalmic goitre, both symptoms which are often said to characterise the disease may be absent. We may have epilepsy, though there may be respectively no loss of consciousness or no convulsion. We shall presently ask whether both of these may be absent in the same case, and yet we be warranted in calling it epilepsy.

A great deal of what I say has long been admitted, since in undoubted epileptics we witness attacks where nothing more is present than a strange feeling in the limbs or a sudden pain in some part of the body ; in others an aberration of the senses or perturbation of an important organ, and sometimes only a strange mental disturbance. Now any of these phenomena may constitute the main feature in the case, and if they occur where there is a history of any attack of the graver form we have no difficulty in interpreting the symptoms and giving the name epilepsy. Frequently, however, patients come to us without any such history, and if they are unaccompanied by relatives or friends we have no corroborative evidence of the correctness of the tale,

and we find ourselves in a difficulty in pronouncing upon the nature of the case.

I need scarcely allude to instances with which every medical man is familiar, where the aura constitutes the main symptom, or, at least, is that of which the patient has most knowledge. Some curious cases of this sort have come before my notice. A little girl was said to have occasional stabbing pains in her head, coming on at intervals and without warning, and in consequence she was thought to have some serious disease of the brain. Whilst sitting in a chair by my side she suddenly called out with pain in her head, and fell back unconscious with convulsive movements of the face and other symptoms of epilepsy.

Dr. Sutton related a case where a man was treated for angina pectoris owing to a sudden pain occurring in the chest. When carefully watched he was seen to be an epileptic. A middle-aged man came to me complaining of sudden attacks of sickness; when his wife subsequently called on me and described other symptoms, it was clear that the vomiting was the onset of a mild epileptic attack. A very curious case was sent me of a young man whom the doctor was treating for syphilitic symptoms; he was said to have a syphilitic sore on the tongue, which, strangely enough, every two or three weeks broke out bleeding in the night, which woke the patient. What he really was suffering from were epileptic seizures in the night in which he bit his tongue. A clergyman came to me saying he had sudden loss of sight. Whilst reading the service in church this would momentarily occur, but it immediately passed off, and he would continue reading. On close questioning, he would not admit the existence of any other symptom. I subsequently heard that he had had two most violent epileptic fits.

Then, again, the aberration or confusion of mind is well known. I had an epileptic friend who would become confused as he walked along the street, and then perhaps fall down. At other times he would continue walking, and behave so strangely that the police would have to take charge of him. In this condition the patient may be guilty of violence or do some eccentric act, as in the case of a young man who some years ago shot a girl

without any reason. He said afterwards that he was quite unaware of what he had done, and, as corroborating his statement, he had a fit in the course of his trial. Another patient was driving out in his gig as usual when he went in the wrong direction, and then continued driving about without aim or object until the boy who was with him started him home. The boy gave a description of his master's eccentric conduct; the latter knew nothing of it.

Simple falling, as in *petit mal*, might be syncope, but in both cases it is probably due to sudden diminution of blood in the brain. If the brain be for a moment deprived of its proper allowance of blood, unconsciousness occurs and the patient falls; this was shown by Sir A. Cooper in animals on ligaturing the cerebral vessels. In those cases where the whole brain suffers from diminished circulation, loss of consciousness occurs with paralysis of the whole body. In like manner, should a part of the brain be deprived of blood, there would be a temporary paralysis of the part of the body which it rules over, but no loss of consciousness. The first case is seen in the *petit mal*, where a patient will become suddenly unconscious, and as rapidly recover. In that form of complaint known as Jacksonian epilepsy, where in a fit one side may be convulsed, but where there is no loss of consciousness, we believe part of the motor region is involved, and generally by a gumma. In this case we often find the convulsed limb remain for some time weak. Now we have only to suppose that this portion suddenly loses its function as does the whole brain in the *petit mal*, and we have the case of a sudden loss of power in the limb without convulsions. In these local affections we may have indeed a strange feeling, a convulsion and loss of power in succession, or have each separately. The truth of this proposition is proved by patients who tell us they have strange feelings in a limb, or movements coming on at intervals and without warning, and whom we know to be true epileptics. For example, a young woman, aged 25, has had several epileptic fits, in which she was convulsed, bit her tongue, etc. This was preceded by a pain in the left foot, running up to the knee. She was put on the bromide and the fits ceased,

but subsequently she had repeated attacks of pain in the leg, but these did not culminate in a fit. A girl, aged 15, had had several well marked epileptic fits; before they came on she frequently called out from pain in the left arm and leg. Besides these bad attacks she often had the pain and strange feelings in the arm and leg, but followed by nothing more. I know a young man who has had slight epileptic attacks preceded by an aura in the right arm. Sometimes as he walks in the street he feels this sensation in the arm and throws it about, and by force of will avoids an attack. This is quite on a par with drawing a tight ligature around the arm and arresting a seizure.

Knowing all this, ought we to put in the category of epilepsy cases which come before us where no other than local symptoms such as these have occurred? Sometimes we prove we are perfectly justified in so doing by the subsequent event. A young man came to me saying he had violent attacks of shaking of his head coming on every few days. A medical man who knew him well said he had no other symptoms, but I believed they were epileptic in nature. I subsequently heard that he had had attacks of unconsciousness.

A middle-aged man came to me saying that for nearly two years he had been subject to strange feelings in his left arm and back of neck. He felt inclined to fall, but did not. I put epilepsy (?) to this case, but did not see him again. Then there are other cases where the symptoms are not like the more ordinary ones attending fits, where sensation is more or less affected, but where there is simply loss of motor power. Of course, in a complete fit with loss of consciousness the patient falls, being totally paralysed, and loses all sensation.

The question arises, Can these occur in a partial way? My own opinion is that they can; and just as a blow on the head produces concussion accompanied by want of power of movement or of feeling of the whole body, so there might be a concussion of one-half producing a temporary paralysis of motion and sensation of one side, but without loss of consciousness; and in same way spontaneously portions of the brain or upper part of the cord might become affected, giving rise to those conditions

so often met with in epilepsy. A man, aged 50, said that for five years he had been subject to attacks of loss of feeling in his feet and legs; this sometimes proceeded to the arms. The attack came on without any warning.

Another patient, aged 50, came to me saying that two years before, whilst in his office and rising to meet a friend he fell down, but did not lose consciousness. He got up and walked to his chair. Soon afterwards, whilst shaving, the razor fell from his hand. Besides these attacks of momentary loss of power, he has whilst sitting a sensation like a galvanic current running up his back. In the night he has awoke and found one arm and leg quite numb. A clergyman came to me for falling of his jaw. It did not occur whilst talking, but whilst sitting quiet his jaw fell and sometimes quivered. Nothing local was discoverable as a cause. Another patient said that whilst walking, he was suddenly seized with complete loss of power of his legs; in-doors, sometimes he would feel as if all power were going out of him, and he was quite unable to speak. His jaw dropped, and his wife, if present, held up his jaw until power returned. He was connected with the engineering department of a colliery, and he said it appeared to him as if the machinery of his body was working quite regularly when suddenly there was a reversal of the engine.

A very remarkable case was that of a man, aged 30, who complained of a sudden loss of power of his limbs. He first noticed this whilst driving; his arms fell, and the reins dropped out of his hand. He almost immediately recovered the power. At another time his legs suddenly gave way beneath him. Sometimes whilst speaking his power of articulation would suddenly go, and at other times other muscles of the head would be affected; he could not swallow, spit or cough, and he saw double. When he came to me he was well, and appeared a healthy young man. I saw him some months afterwards with a friend, and he said he still had the attacks, and quite lately he was carrying rather a heavy weight, when his legs gave way under him and he fell down.

I mention these cases in connection with epilepsy seeing that

true epileptics have these strange attacks in their limbs. I would not, however, say that in all cases they were of the same nature, and had the same pathology as epilepsy, although they might be. As before said, when a person falls, his body paralysed, it is connected with loss of consciousness. It may occur in epilepsy, but the simplest case is that of syncope. Where in epilepsy one limb is especially affected, it is supposed to mark a local affection of the brain; and so I take it that as in syncope the function of the whole brain has become momentarily in abeyance, in these cases it is a partial cerebral syncope, or rather local. A local temporary paralysis may thus be compared with a local spasm, as when a person is suddenly seized with a lockjaw so that he cannot speak. I am fully aware that these temporary paralyses, having their origin both in the brain and cord, are met with in various organic diseases of these organs. I have seen them in general paralysis, and more than once in ataxia and other diseases of the spinal cord, called then reflex.

Having thus divided the epileptic attack into its several parts, and seen how each one may predominate, if not be the only symptom, I have now left for consideration the final one, which usually succeeds to the ordinary attack—the sleep, drowsiness, or coma. I now ask, May this be the only symptom of epilepsy? I have reason to think it may, and to this part of my subject I wish for the opinion of the society either for or against, as I think nothing much has been written upon it. There may be those present who would object to coma forming the essential or only part of epilepsy, seeing it would not accord with their definition or theory of the disease; but I am at present putting aside all considerations of this kind, making my paper purely clinical.

A young lady, aged 19, gradually became insensible, and fell into a deep sleep; when awoke went to sleep again. After an interval of some weeks she had another attack, when she fell into a state of almost complete insensibility, and slept for hours. She has had similar attacks since. Nothing was observed in the shape of convulsion or twitching of the muscles before the coma came on; but on closely questioning her as to her feelings before these attacks, she said she sometimes experienced a strange feeling in her right arm, leg and face.

A gentleman of middle age was under my care for symptoms of a syphilitic nature, having nodes on the head with much pain. He one day, whilst sitting at dinner with his niece, who took charge of him, complained of feeling unwell and sleepy, and said he should go to bed. He walked upstairs and was assisted into bed; he soon fell into a deep sleep from which he could not be roused, and a medical man was sent for. He was found to be in a profound coma, so that nothing could rouse him. I then saw him and we all thought he was dying, but after about ten hours he became wakeful and shortly came to. On the following day he was again downstairs as usual. It was clear that nothing of an apoplectic seizure could have occurred. About two or three weeks afterwards he was seized with a true epileptic fit, followed by profound coma, which lasted several hours, as in the previous attack. He again quite recovered, but subsequently had another. It occurred in the evening, when he began to feel heavy and went up to bed, and soon sank into a comatose state. He lay thus for several hours as before, and then recovered. His niece and his nurse, who were quite prepared for a fit, on the closest questioning, declared he had no warning or premonitory symptom of any kind before the coma came on. The niece was always watching him, and is sure that the slightest twitching of the face would have been noticed by her. It seemed to her, and also to me, that he would fall exactly into the same coma as he did when he had the regular fit.

Now, if coma be the only symptom of epilepsy, we may ask whether a partial insensibility may be of the same nature. I have already alluded to the mental aberrations of epileptics—how they will walk about in a dazed condition and be guilty of strange acts, and how such mental states may sometimes be the only indication of the paroxysm. Now, I ask, may such a condition occur and have epilepsy for its nature and pathology without any other symptoms ever having existed? For example, a boy of 14 was brought to me, who was said to be intelligent and had obtained prizes at his school. In two years he had had several attacks of the following nature: His mother would observe that when he came home he would seem very dull, sit in

a chair, and not speak except addressed. He would be led up to bed or led anywhere like an automaton or a person hypnotised. He had no fit and no loss of consciousness ; had several attacks of this kind. The last having continued three days, she brought him to me. He sat down in my study and said nothing, except in short words when addressed. He walked into other rooms when I told him, and then came back, doing anything he was bid. He had no other objective symptoms whatever. I saw him some months afterwards, and heard that the attacks were less frequent and shorter. He was a bright, intelligent boy, and presented a complete contrast to the patient I had before seen.

Sometimes an epileptic fit seems, as it were, drawn out ; then, of course, there is no sudden falling, as, for example, a young woman, aged 22, had curious attacks, which her medical man supposed were of an epileptic nature for the last six years. Whilst in the streets or elsewhere she would feel a numbness in the leg and arm on one side ; this continued for two or three hours, followed by headache. Sometimes the sight would fail on one side, but she never lost herself. If the attack came on in the day, she was unfit to go on with her work, for, as a rule, she wanted to sleep for hours afterwards. If one could imagine a fit which is usually all over in so many minutes protracted for several hours, one gets a notion of this case. Another case somewhat similar was that of a young man engaged as a clerk, and who for the last six years has had strange attacks. He feels a numbness creeping over his leg or arm of one side, and sometimes vision fails on one side. This feeling may last two or three hours, and is then followed by headache, which also lasts some time, and then sleep comes on. If these attacks occur during the day, he is obliged to desist from work, as he feels headachy, sleepy, and generally queer. He never loses his consciousness. What he described was an epileptic attack long drawn out, an attack in which all the symptoms were spread out over a length of time, the greater part of a day. If they had been compressed into a short period they would have constituted an ordinary epileptic fit. In his case there obviously could not have been any loss of consciousness.

Now, having mentioned a number of symptoms which may be of an epileptic nature, there remains another disorder which many authors think is closely allied, if not of the same nature as epilepsy. I mean migraine. For many years I have closely watched this subject, and I have no reason to support this view ; in fact, my own experience is opposed to it. The main reason which authors have in associating the two is that the two complaints are both paroxysmal, and therefore they become placed together under the same heading in medical works. But periodic attacks of complaints in no way make them allied ; and then in these two particular cases how different are the paroxysms. In one case the attack may come on suddenly, without any warning, so that the patient falls down in the streets, or into the fire ; whilst in the other case the headache may be coming on for hours before it reaches its climax. This suddenness in epilepsy shows the attack is not anticipated, whereas an attack of migraine may be not only foretold, but produced at will. Many persons tell me that sitting in an atmosphere containing much carbonic acid will invariably produce an attack ; others say a visit to a picture gallery will induce it ; others the smell of flowers. I do not see myself the slightest resemblance between a symptom brought on at any time by an act of the will, and another which shows a periodic explosion of the brain occurring only at given intervals. This fact alone in my mind shows a complete separation of the two complaints. Then the symptoms have nothing in common ; in the one there is the violent convulsion, dilated pupil, congestion, and often heat of body ; in the other a cold skin, contracted pupil, sickness, etc. Then it is said that, although they thus differ in outward phenomena, they may own the same cause and replace one another. This is a question of observation and fact. For my part I have no experience of it. I know a large number of migrainous persons and migrainous families, but I do not see megrim and epilepsy replace one another. The epileptic does not suffer from headache. This fact I arrived at many years ago, after the discovery of syphilitic disease of the cranium, of the membranes or surface of the brain, producing fits. For in these cases a local pain is present, and therefore it constitutes a

diagnostic difference between these and simple epilepsy. It has therefore always been an inquiry on my part as to the existence of pain, and it may be stated as an absolute fact that the ordinary epileptic does not suffer from pain in his head. Then it is again said that if the two complaints do not occur together they may be seen in the same family, one member having the one complaint and another member the other. I have no knowledge of this, but, on the contrary, believe that the migrainous patient and the epileptic belong to a different class of persons. It is true that both affections are nervous, but the migraine occurs in persons of highly-strung nervous system—in the neurasthenic—whilst epilepsy occurs in persons who show no such tendency, but often in the dull and stupid. I have seen it somewhere written that migraine is a disease of the upper classes, and I think there must be some truth in this; for if I take men, I do not remember ever-prescribing for the complaint amongst our out-patients, whilst epilepsy is common enough; nor can I understand how it could occur amongst them; and what would happen if our soldiers, sailors, policemen, and engine-drivers had attacks of migraine which for some hours would quite incapacitate them from their duties; and yet I never heard a man being declared unfit for these duties from having headache. If I wished to find epileptics, I should go to lunatic asylums or idiot asylums amongst the low and undeveloped; and, on the other hand, seek amongst the bright and intellectual for migraine; and if, moreover, I wanted to gain any information about the complaint, I should read the *Philosophical Transactions*, where are recorded the histories of many distinguished men who suffered from it.

I have now cursorily alluded to various phenomena associated with the disease known as epilepsy. Many of these are well known, and need not be further commented upon. The part of my paper on which I should like the opinion of the meeting is that where coma is spoken of as the only symptom, and also on that in which I have suggested that a fit may be drawn out or protracted over several hours. I should also like to hear the views of the meeting on the question of the alliance of epilepsy and migraine. I have stated my opinion as opposed to it; but

since many distinguished authors have of late been in the habit of placing them together, I am quite open to any further observation or facts which may tend to strengthen the position they have taken.—(*British Medical Journal*, Jan. 2, 1892.)

Action of Yeast on Typhoid Bacilli.—

Recently Dr. Springthorpe, at a meeting of the Victoria Branch of the British Medical Association, communicated a description of M. de Bavay's results of a series of observations and experiments on the saccharomyces and their relation to typhoid bacilli. These saccharomyces were obtained from chyle which had escaped from the thoracic duct through an ulceration, and which appeared to possess very strong antiseptic and deodorising properties. After determining that the typhoid bacillus grew best in broth, and that milk was not a specially good medium unless it could be previously peptonised by other materials, M. de Bavay carried on a series of experiments to prove that yeast had the power of interfering with the growth of the typhoid bacillus when the two were cultivated *in vitro*. He found that the typhoid bacillus growing in an alkaline medium was much more virulent than that organism growing in an acid medium. He explains this on the assumption that the poison secreted by the organism is immediately precipitated in the alkaline medium, leaving the bacillus free to act, whilst in the case of the acid medium the poison is not precipitated, and eventually accumulates to such a degree that the organism which secretes it is itself poisoned. He found also that if he retained the sediment from an alkaline solution on a filter, and then dissolved it in a weak acid, he obtained an exceedingly toxic substance. From this he argues that as yeast is able to pass through the intestine comparatively unchanged, and as it develops a considerable quantity of acid in its growth, it should, if introduced into the intestinal canal, maintain a certain acidity in the contents, and so prevent the precipitation and storing up of the typhoid poison—a storing up which takes place when the secretion is allowed to remain alkaline. He also holds that if the food taken by the patient be saturated with yeast—which is a harmless organism—

the typhoid bacillus can no longer develop in it, and is therefore very soon starved out, and he maintains that in consequence of this slow absorption of the acid into the system a kind of self-protective inoculation takes place ; in fact, after injecting a mixture of yeast and typhoid bacilli, guinea-pigs which had shown slight signs of intoxication but had recovered were proof against large toxic doses of the poison. He describes an organism found in certain cases resembling typhoid which secretes a far more poisonous compound than does the typhoid bacillus itself, which, however, it resembles in many respects, although it develops rapidly on potato, forming an abundant wax-like covering. The colonies on gelatine are exceedingly minute ; the bacilli are like those of typhoid but a little stouter ; they are arranged in chains of two, three and four, and have a serpentine motion across the field of the microscope ; they stain readily, and are then very similar to the bacilli of septicæmia. Here, however, the poison appeared to belong to the class of albumoses, whilst the typhoid poison he considers to be a ptomaine. His conclusions are (1) that the action of yeast in the treatment of typhoid fever is principally due to the power which it has of secreting an acid, and of doing this over and over again, by which means it is able to render acid the contents of the intestines ; (2) that when such an acid reaction exists, the poison secreted by the germ reacts upon the germs themselves and stops their growth ; (3) that the action of yeast on the poison of typhoid differs according to whether it is pure or contaminated by bacteria ; (4) that liquids impregnated with yeast are in a great measure protected against the depredations of typhoid bacilli, especially if such a liquid contains a fermentable sugar ; (5) that these properties of yeast are not confined to one variety, but that they increase or diminish according to the power of assimilation and acid secretions of different varieties. Further, he has found that the typhoid bacilli, after repeated growth in peptonised broth, produce less poison, as it is necessary to use larger doses to produce the same effect.—*Supplement to British Medical Journal.*

Vagabondage.—Certainly no humane and enlightened person wishes for a return of the days when witches were burned, the insane were whipped, and neurotics were consigned to the penitentiary. Many human failings, which in the night of the Middle Ages, or even within the memory of men still living, were regarded and punished as sins, vices or crimes, are at present held to be diseases, or, at most, morbid immoral tendencies, and their victims are now received into hospitals or asylums where physicians preside. This reformation has been aptly termed the war of conquest, which the medical fraternity has successfully waged against the magistracy.

A recent lecture, in which a foremost worker in this field of reform, Prof. Benedikt of Vienna, had the insight and courage to defend the so-called "tramps" from the severity of the existing laws directed against them, deserves notice in our pages. We cull from the report of a late Berlin journal, *Der Zeitgeist*. Dr. Benedikt, in this lecture, defines vagabondage to be either acquired or natural. In the acquired form, two groups of vagabonds are distinguishable. In the first group belong convalescents prematurely discharged from hospitals, who are temporarily incapable of work. This group is further composed of chronic valetudinarians, of sufferers from senile debility, and of individuals intellectually or morally weak. The second group consists of persons that have been plunged into misery by pecuniary reverses of fortune and the like. None of these accidental vagabonds should, according to Dr. Benedikt, be subjected, as now happens, to the penal laws. They have a claim upon society for charitable support, either in convalescent hospitals and asylums or by the provision of wages commensurate with their earning capacity, or by outright pecuniary aid.

Among the individuals who have acquired vagabondage, Dr. Benedikt further classes such adults and children as at birth were free from all psychological tendency to this state, but who, through neglected education, enticement from the path of duty, intolerable environments and the like, have been transformed into vagabonds, and have also, perhaps, won still worse defects of character therewith, such as drunkenness.

In his category of natural vagabonds, the Professor cites young children that appear to have been innately designated for a vagrant's existence, and who already gave, during the innocence of infancy, psychological tokens of the vagabondage to which they were predestined.

In the task of redeeming adult vagabonds much success has attended their judicious constraint to work, but with young subjects a less happy outcome of attempts in the same line has been observed, probably because the latter are mostly recruited from children who have suffered from great moral neglect. For the protection of society against incorrigible and hopeless vagabonds Prof. Benedikt would have all those that are found, on judicial inquiry, to be permanently or by relapse wedded to their habits, consigned by decree of court to appropriate institutions for their detention and treatment.

According to the view taken by the lecturer, the psychological ingredient most essential to vagabondage is a natural or acquired aversion to labour, which itself depends upon asthenia of the will. Whence it comes that persons who, through sheer irresolution, are incapable of labour, become fitted for effective work when under adequate supervision they are constrained thereto. A second important element is the shallowness and fickleness of the subject's character, and this is the soil which is most prolific of the professional vagabond or tramp. A third elementary cause of vagabondage is designated by Dr. Benedikt as claustrophobia, under the operation of which, individuals, as has happened to entire tribes of men, become powerless to abide in confined and unchanged localities. Another noteworthy factor he finds in a certain psychical state of unrest which prevents the afflicted possessor from persevering in any one continuous and coherent line of effort, but he veers to every shifting suggestion or impulse.

While discussing the relation of vagabondage to crime, Dr. Benedikt instances the remarkable phenomenon that vagabonds may prove themselves to be the veriest knights of honesty and virtue, and may suffer privation, misery and despair without once giving way to a criminal act. On the other hand, remarks the lecturer, vagabonds frequently commit crimes for the sole



purpose of being committed to prison. It is characteristic of this description of offences that they are usually perpetrated in the presence of the public or of the police authorities. In a paroxysm of extreme exasperation and despair, the tramp sometimes commits an atrocious crime—his alleged grounds therefor being that he courted extreme punishment and even death.

In conclusion, Dr. Benedikt vividly describes and emphasizes the impression made on him by a visit to Merksplatz, where four thousand Belgian vagabonds were colonized. The Belgian Minister of the Interior gave the prestige of his authority on the occasion by patiently accompanying the Professor throughout his visit, and the latter succeeded in classifying that whole vagabond community into scientific groups. The actually insane did not fill an insignificant category. Prof. Benedikt adds: "How magically such a demonstration *ad oculos* succeeds in clearing up a great social problem, with which the psychologist only is competent effectually to deal."—*W. W.*, in *Alienist and Neurologist*, January, 1892.

THE
Montreal Medical Journal.

VOL. XX.

FEBRUARY, 1892.

No. 8.

**THE NATURE AND TREATMENT OF INFLUENZAL
PNEUMONIA.**

The treatment of pneumonia is a subject that is constantly being forced on the attention of the practitioner. Of late, the number and severity of cases of this disease have been increased. This is chiefly due to the epidemic of influenza which has been so universal. In old people especially, pneumonia is not an infrequent manifestation of the influenza poison. In the great majority of these cases it is a broncho-pneumonia that we have to deal with, croupal pneumonia being rather an uncommon manifestation or complication of the disease. The broncho-pneumonia of influenza clinically differs somewhat from the same disease coming after measles or whooping-cough, and also from the broncho-pneumonia which is met as the result of a chronic bronchitis in old people.

Influenzal broncho-pneumonia is characterized by being more extensive—by being more prone to affect in rapid succession different areas of the lung texture. Another feature is that the respiratory distress is often out of proportion to the extent of the pulmonary exudation. This points to the involvement of the bulbar centres. These may be excited or depressed. Sometimes the respiratory centre is alone involved, and sometimes the cardiac alone: often both together. One may be irritated while the other is depressed. It follows, therefore, that the cardiac and respiratory symptoms may be very various.

As to the treatment of influenza pneumonia, every cautious physician must be particularly struck with the two-edged tools

that are so carelessly employed. In a recent journal we have a prominent physician giving us the advice that *veratrum viride* is good in influenzal pneumonia. We have no hesitation in characterizing such treatment as bad—utterly bad. If there is one thing surely established, it is that cardiac depressants are bad in all secondary pneumonias. We think that this is true not only of secondary, but also of primary pneumonias,—in fact of all pneumonias. Whatever is done in influenzal pneumonia, it should be such as has a stimulating influence. The tendency to death is through cardiac and respiratory failure. To prevent this, the most important means that we have are the use (1) of alcoholic stimulants, (2) digitalis and strychnine, and (3) oxygen inhalation. By the judicious employment of such agents, with strict attention to general hygienic and dietetic measures, we fully believe that we are adopting those measures which the science of the present teaches us as being the most useful in the conditions named.

ETHICS OF MEDICAL JOURNALISM.

The editor of a medical journal should, one would naturally think, be the last man in his profession to make use of any means not strictly honourable to further his aims. One would expect, to say the least, that such a responsible position would be filled by a man who not only respected the letter but also the *spirit* of the law.

In looking over our exchanges, we are frequently reminded of the great lack in true professional ethics displayed by many of them. In one column may be found just condemnation of mountebankism in one of its many forms, while in another the same *we* is “telling his readers why his journal is the best that can be purchased for the money. It is the journal, above all others, which deals with the practical aspect of medicine. Some journals give as many as a dozen reasons which in their opinion entitle it to be considered before all others. Such assertions may be true, or they may not. Generally speaking they are not. Whether true or false, no editor should condescend to

resort to such means of making money. Why a reputable practitioner should use such means of gaining a little kudos as medical editor and scorn to make use of them in his medical practice proper is difficult to understand? The same ethics that is proper for the practitioner should also be adopted by the medical editor. Self-laudation is not confined to any particular class of medical journals. It is to be found in monthlies, bi-weeklies and weeklies. Probably the great English and American weeklies are more prone to this self-praise than any others. There are a few noticeable exceptions. The French and German medical journals of all classes are almost entirely free from any such puffing. The Anglo-Saxon editor finds no doubt that it pays to resort to such means. Charlatans make use of similar means for similar reasons.

After all, no one particular medical journal is so valuable or so important that its non-appearance would be felt as a great loss by the profession.

Obituary.

JAMES BOWIE, M.D.

It is with great regret that we record the death of Dr. James Bowie, late of Mitchell, Ont. Dr. Bowie reached the great age of 90 years, and for upwards of sixty years practised his profession. He graduated in medicine in the University of Glasgow in the year 1825; shortly afterwards he began the practice of his profession in St. Johns, Que., but after a short stay he removed to St. Eustache, where he remained for many years. During the "unpleasantness" in 1837, Dr. Bowie was attached as surgeon to the Royal troops, and in that capacity he was present at the battle of St. Eustache. During the fearful epidemic of typhus fever in this city in 1847 Dr. Bowie was acting medical attendant to the hospitals situated at Point St. Charles, and during this trying period he contracted the disease. He, however, quickly recovered and continued his work, which to him was a labour of love. After the subsidence of the epidemic he removed to Mitchell, and in that town he passed the remainder of his professional life.

After retiring from practice in 1883 he has resided with different members of his family in Montreal, Chicago, Seaforth and Brockville. It was while visiting his son, Mr. D. E. Bowie, barrister, of this city, that he contracted influenza. This was followed by a catarrhal pneumonia, which rapidly proved fatal.

As a practitioner in Mitchell, Dr. Bowie was highly respected and sought after. For many years he was the leading practitioner in that district of country. He has passed away, full of years, respected and beloved for his many sterling qualities.

D. J. M. HAGARTY, M.D.

After a prolonged illness, D. M. J. Hagarty, M.D., of Portage la Prairie, Manitoba, passed away in California where he had gone with the hope of prolonging his life. Dr. Hagarty graduated in McGill University in 1866, and after practising some years in London, Ont., he removed to the North-West, and early succeeded in establishing a large and lucrative practice in Portage la Prairie. He was an able practitioner, and his loss will be felt keenly by his many friends and patients.

FINDLAY McEWEN, M.D.

It is with sincere regret that we record the death of Findlay McEwen, M.D., of Carleton Place. He graduated in medicine in McGill University in 1870, and has ever since resided and practised in Carleton Place. As a practitioner and citizen he was highly esteemed.

Medical Items.

—Prof. Kast of Hamburg succeeds Prof. Biermer as Director of the Medical Clinic in the University of Breslau.

—W. B. Saunders, publisher, of Philadelphia, announces the two following important works as being in the press:—

“An American Text-book of Surgery,” by Professors Keen, White, Burnett, Conner, Dennis, Park, Nancrede, Pilcher, Senn, Shepherd, Stimson, Thomson and Warren. Forming one handsome royal octavo volume of about 1200 pages (10×7 inches), profusely illustrated with woodcuts in text, and chromo-lithographic plates: many of them engraved from original photographs and drawings, furnished by the authors. Price, cloth, \$7.00; sheep, \$8.00.

“An American Text-book of the Theory and Practice of Medicine, according to American Teachers,” edited by Wm. Pepper, M.D., LL.D., Provost of the University of Pennsylvania. To be completed in two handsome royal octavo volumes of about 1000 pages each, with illustrations to elucidate the text wherever necessary. Price, per volume, cloth, \$5.00; sheep, \$6.00; half Russia, \$7.00. For sale by subscription only.

—E. B. Treat, publisher, New York, has in press for early publication, the 1892 “International Medical Annual,” being the tenth yearly issue of this deservedly popular work. Its corps of thirty-five editors are specialists in their respective departments, and have been carefully selected from the brightest and best American, English and French authors. It is the embodiment of what is worth preserving of the current medical journals of the world for the year, and will contain over 6000 references to diseases and their remedies. The service rendered the profession by this Annual cannot be over-estimated, and it is an absolute necessity to every physician who would keep abreast with the continuous progress of practical medical knowledge. This Index of New Remedies and Dictionary of New Treatment, epitomized in one ready-reference volume at the low price of \$2.75, makes it a desirable investment for the busy practitioner, student and chemist.

MONTREAL MEDICAL JOURNAL.

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

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MARCH, 1892.

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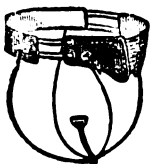
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

MARCH, 1892.

No. 9.

Original Communications.

TRAUMATIC SEPARATION OF THE LOWER
EPIPHYSIS OF THE FEMUR.*

BY JOHN M. ELDER, B.A., M.D.C.M.,
Assistant Demonstrator of Anatomy, McGill University.

Mr. President and Gentlemen,—The scant attention given to the subject of separation of the condyloid epiphysis of the femur by the standard works on surgery, coupled with a conviction that the accident is not as rare as was at one time supposed, has led me to hope that a short paper on this subject might prove interesting to the members of this Association, and at the same time might add somewhat to our knowledge on this question. In connection with the paper I am fortunately able to show you an example of this surgical accident in the person of this young man; and I think, when you hear the report of his case, you will agree that he is fortunate in being able to carry with him this specimen, at one time the lower diaphysis of his femur, even if he has to do so in his pocket.

In a clinical lecture on the surgery of the epiphysis, delivered in 1885,† Wheelhouse drew attention to the important part played by the epiphyses in all dislocations and fractures in the neighbourhood of joints, and hinted that many supposed cases of dislocations in young persons have really been fractures through the epiphyseal line, as shown by the frequency with which de-

* A paper, with illustrative case, read before the Canadian Medical Association, at Montreal, September, 1891.

† British Medical Journal, Vol. I, 1885, p. 475.

formity has followed their reduction, and that this may account for the paucity of literature on this subject.*

A glance at these specimens, kindly put at my disposal by Dr. Shepherd, will enable you to see how easily, in the case of young patients, any one might mistake fracture through the lower femoral or humeral epiphyseal line for dislocation of knee or elbow. Moreover, in the case of the femur, the liability to just this kind of accident extends over a goodly period of time, for you will recollect that while this epiphysis is one of the first to be formed (9th month, foetal), it is one of the last to join its corresponding diaphysis (21st year). While I have these specimens in hand, I would ask your attention to the mechanism of this form of injury. When fracture takes place, the epiphysis will be tilted forward by the two heads of the gastrocnemius, thus presenting its articular surface to the patella. At the same time the diaphysis will be thrust backwards and downwards by the pull of the quadriceps extensor muscles in front and the ham-string muscles behind, and will impinge on the vessels and nerves in the popliteal space, or slipping past them, may be forced out through the skin altogether, and thus become compound. One peculiarity of the injury, when compound, is that the protruding diaphysis is always stripped of its periosteum, which is turned back like a stocking on a foot.

I have premised thus far that we may be able to see clearly what has happened in the case of this young fellow whom I accidentally stumbled upon a couple of years ago in my last practice.

When seven years old, he was standing on one foot, with the other resting on the hub of a waggon wheel; a pile of lumber behind him fell forward and struck the standing limb just below the knee, driving the lower part of the leg violently forward, and letting the lower part of the femur impinge on and perforate the popliteal space, through which the bone protruded for about three and a half inches, letting the boy down as it were. The two nearest medical men were at once summoned, and diagnosed compound dislocation backward of the femur, not noticing the absence of the condyloid cartilage on the protruding bone. Two

* cf. Erichsen's and Holmes' "System of Surgery."

different attempts, under chloroform, were made at reduction, but neither successful, so amputation above the knee was advised. To this the boy's father, strongly objected, and failing this they sawed off what they could not reduce (about an inch and a half), tucked in the remainder, and left the case in disgust at the obduracy of the father. It was hot weather and before the days of modern antisepticism, so that the neglected wound soon became septic. The father (an intelligent French-Canadian blacksmith) then took the case in hand, and henceforward was the only surgeon employed. He killed the maggots by pouring whiskey into the wound, improvised a sole-leather back-splint, and in four weeks the lad was propelling himself around the garden, and in two months was walking, at first stiffly, but as time went on he got the perfectly good knee-joint, which he now presents. The injured limb is shorter than the other by exactly the amount of bone removed thirteen years ago ($1\frac{1}{2}$ inches), but in every other respect is as strong as its fellow, and he is able to do any kind of work. The specimen of bone is not quite perfect, owing to the father having singed it at his forge "to burn off the stink," but anyone can see it is the lower end of a femur.

The above history (which I took pains to verify by the doctors who attended) puzzled me not a little; and I exhibited the case to several of the medical men here a couple of years ago, when Dr. Shepherd suggested the explanation of what had occurred as a compound separation of the lower epiphysis of the femur.

In the *New York Medical Record* for Jan. 3rd last (1891) a case is reported by Dr. John H. Owings almost identical with this one, and the treatment and result tally so well that I will ask your forbearance to quote it in a condensed form.

"On Aug. 29th, 1890, was called to see a ten-year-old girl whose left leg had been caught in a waggon wheel and fractured at the knee. A careful examination under an anæsthetic showed that the condyloid epiphysis had been separated from the diaphysis, and that the shaft of the femur had lacerated the soft parts and was protruding through the skin over the popliteal space fully five inches. Amputation was advised, but owing to absence of the father, the strenuous objections of the mother, and

a tendency to collapse on the part of the patient herself, we deemed it best to attempt reduction. We did so, but much to our surprise, we utterly failed to reduce the protruding shaft of the femur. Dr. Minshall and I called Dr. Douglass to our aid, and we made another attempt at reduction, but with no better result. As the patient now began to show signs of suffering from the continued anæsthetic (one hour), I advised amputation of the protruding end of bone to facilitate reduction, and my confrères concurring, I removed three-quarters of an inch, which allowed us easily to reduce the remainder.

Beyond the impossibility of reduction, I had other reasons for the course I pursued, viz. (1), the danger of pinching some important vessel or nerve between the diaphysis and epiphysis; (2) the probability of necrosis following the denudation of periosteum; (3) the greater probability of bony union between the fragments if the smooth end were sawed off.

The wound was then thoroughly douched out with bichloride solution, and the external wound closed by ten silk sutures. Iodoform was dusted over the parts, antiseptic dressings applied, and the limb left in a flexed condition at both hip and knee. The only antipyretic ordered was quin. sulph. gr. i, 4tâ horâ. Next day we put up the leg on Smith's anterior wire splint, and suspended the limb from the ceiling. The temperature was then $101\frac{1}{2}^{\circ}$, but gradually subsided to normal on Sept. 3rd, patient having suffered very little in the meantime. But next day (probably owing to want of drainage) temperature went up a little, and wound showed signs of sloughing. We removed sutures and gave vent to some bloody serum, and by Sept. 8th temperature was normal again, and we removed all sutures and held the edges together by adhesive strips. The wound then healed rapidly, and on Oct. 25th I removed the splint and found no articular effusion and some motion. Put leg up again on anterior copper splint and starch bandage, and left it until Nov. 14th, when I substituted a short knee splint, and found more motion and evidently good bony union. Ordered patient up on crutches, and from that on her improvement was rapid. On Dec. 1st she walked with only a slight limp, had a good moveable knee-joint, with one inch shortening of the affected leg."

An exhaustive article on this same subject, by Dr. Packard of Philadelphia, appeared some time ago in the *Annals of Gynecology and Pædriatics* (vol. iv, p. 111), and to this I am indebted for many references ; though, as Dr. Packard says, many of the cases have been so carelessly reported as to leave room for doubt whether they were not simple supra-condyloid fractures instead of simple diastases : regarding the compound cases there is no room for doubt. Dr. Packard at the same time relates a compound case of his own where amputation was necessary, and figures the specimen removed, with the gastrocnemius, as we have seen, attached to and tilting the epiphysis, and the bare diaphysis sticking out. I mention this particularly, because Mr. Mayo Robson,* in an article on this same subject in which he cites several cases and gives drawings of specimens in Guy's Hospital museum, makes the strange statement that the gastrocnemius is attached to the diaphysis, and that it is the muscles of the calf instead of the muscles of the thigh which prevent reduction. Accordingly, in his remarks on treatment, he logically enough recommends tenotomy of the tendo-Achillis to assist reduction, which he practically regards as impossible in compound cases, and his conclusion is that amputation above the knee is the correct surgical procedure in these cases.

An analysis of the seventy (70) odd cases I have managed to disinter from medical journals, with a view to determining the kind of violence most likely to produce this form of injury, gives the following facts : Entanglement of the limb in a moving wheel (as of a carriage), 33 cases ; a fall while running, 3 cases ; one case of a fall from eighty feet ; body thrown forwards while leg was in a hole up to knee, 2 cases ; one case while boy was playing leap-frog, and alighted with feet widely separated ; direct blow to lower part of limb (as in this case), 4 cases ; run over by vehicles, 4 cases ; and finally, as result of surgical procedures for correction of ankylosis or deformities, five cases. In 33 of the cases the compound character of the lesion is mentioned.

* *Annals of Surgery*, Feb. 1889. Quoted by Dr. Shepherd, in *Montreal Medical Journal*, vol. xviii, p. 198.

In conclusion, I think we are justified in drawing the following deductions regarding the proper treatment of this form of injury :

1. In all cases, simple as well as compound, there is danger to the popliteal vessels, and the first thing to be done is to ascertain their condition: If ruptured, or in any way irreparably damaged by pressure of the diaphysis, our plain duty is to amputate, and thus prevent gangrene.

2. But if we have reason to think the popliteal vessels are functionally intact, we should, in simple cases, reduce the injury by traction (and possibly tenotomy of the tendo-Achillis), and then put up the leg in plaster or on a McIntyre splint, with the knee semiflexed.

3. In compound cases, we should first try reduction of the protruding fragment. For my own part, I cannot see why every attempt to do this has hitherto failed. But failing this, I think these cases we have would justify the surgeon in cutting off what he could not reduce, and then put the leg up in plaster, with a window through which to dress the wound. I do not think we can any longer justify the classical treatment of amputation above the knee, at least as a first resort, for I am sure you will agree with me that the result before you to-day, even though not premeditated, is infinitely better for the patient than a wooden leg would be.

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DIAGNOSIS OF ANEURYSM OF THE DESCENDING THORACIC AORTA.*

By J. ELSDALE MOLSON, M.B., B.C. CAMB., M.R.C.S. ENG.

I was led to the consideration some time ago of this question, from the fact that there occurred, within a fortnight, in the Middlesex Hospital two deaths from rupture of the aorta in its descending thoracic portion.

In the first case the rupture was into the left bronchus, the patient dying in five minutes. In the entry book the case was put down as one of phthisis. The patient had been in good health till fifteen months before, when one day he was seized by a sharp pain in the left side. He attended as an out-patient, and was told that it was pleurisy; at the same time he had a bad cough, and used to spit up a good deal of frothy expectoration. He attended six or seven months. The pain did not get much better; however, it almost went away in the summer. He was one day doing some heavy cleaning work, when, about 4 P.M., without any preliminary feeling of faintness, he felt his mouth full of something, and on spitting it out, found it was blood. He then had a severe fit of coughing and brought up a good deal more, in all about one and a half pints, in appearance light red and frothy. He walked to the hospital, about a quarter of a mile. While waiting for admission he brought up some more blood, and the same evening about half a pint more while lying in bed. He was not examined because of the hæmoptysis, except for auscultating the left apex, the same side on which the pleurisy had been; it shewed signs of phthisis. It was regarded as an aneurysmal dilatation into a phthisical cavity. In three days the fatal rupture occurred.

In the second case the rupture was into the œsophagus. This patient took his daily walk about the garden, enjoying it. When at dinner one day in the ward, he suddenly rose, took a couple of steps towards his bed, and fell on the floor insensible. I happened to be the one to help to lift him into bed. In a few minutes

* Read before the Medico-Chirurgical Society of Montreal.

he revived, and then vomited about a couple of pints of blood. A further rupture occurring in two days, he died.

Two such striking cases happening within a short time impressed me most forcibly. They both were of the descending thoracic aorta. I can neither hear of nor find much written on this subdivision of thoracic aneurysms. Its signs and symptoms being very different and much less definite than those of the ascending or transverse portions of the aorta, I think it might well deserve a subdivision of its own and repay in the future a close observation and classification of its signs and symptoms, in proof of which is the case of an old woman who died of phthisis in the hospital during the last year. At the post-mortem examination a partially cured sacculated aneurysm of the descending thoracic aorta was found, which had eroded the bodies of three of the dorsal vertebræ. This aneurysm was not in the least suspected during life. It was somewhat larger than a big tangerene orange, and as far as I can see in the spirit specimen now, there is laminated clot up to the lumen of the vessel, but I am told that at the autopsy part of the aneurysm was not filled with laminated clot, and that the bodies of the vertebræ showed signs of active inflammation. However, though it was not cured, it would repay us, and we may hope to cure these aneurysms if we can discover means of diagnosing them in a fairly early stage. For we can hopefully look at the very different state of this last mentioned aneurysm, caused, probably, by the enforced rest due to illness, in comparison with the opening case, in which partial rupture occurred when doing some heavy work, and fatal rupture followed in three days. Even taking the least hopeful view, and having the smallest confidence in our own powers, if we only knew that the aneurysm was there we might give the patient the considerable advantages of diagnosis and prognosis.

From the fact that so little is given in text-books or in other books, as far as I can find, on its diagnosis, though it is a very rare form of aneurysm, still the terrible circumstances attending the usual fatal result will make its consideration not a complete waste of time.

I intend considering the subject from the clinical records of

cases, the nature of the aneurysms being proved by the notes of the post-mortem examinations. Any which are not clearly aneurysms of the descending thoracic aorta are excluded. Thus following up evidence to see whether the opening case can be considered as a typical case in an early stage, and if its sudden fatal result was not greatly due to unfavourable circumstances and hard occupation, and, lastly, whether we can diagnose such a case in an early stage and thus avoid such unwarned and sudden fatal endings.

By only taking those cases which have had post-mortem examinations, we are to a certain extent sure of our facts, and have a correct groundwork on which to build our conclusions, and anyone can draw his own inferences from given facts.

I have searched the Middlesex Hospital post-mortem records of the last ten years for undoubted cases of aneurysms of the descending thoracic aorta. That gives me ten cases, but the notes of one case being missing, I have substituted the notes of a case which died in Brompton Hospital.

I must most heartily thank Dr. W. E. Wynter, the Middlesex Hospital Medical Registrar, for his kindness in giving me every facility for examining the hospital records.

The cases selected were under the care of Drs. Cayley, Coup-land, Powell, Finlay, and Mr. Andrew Clarke, and to these gentlemen I am indebted for their notes, as well as to the pathologists Mr. Leopold Hudson and Dr. Sidney Martin.

The first thing one notices is the rarity of these cases. Only ten were found in 2,982 post-mortem examinations. So it has occurred once in 298 or 0.33 per cent. of a general hospital's post-mortem examinations. It must also be remembered that probably there would be nothing like so many out of a corresponding number of ordinary deaths. Hospitals tend to collect rare cases. I do not think any London general hospital would intentionally, if it could possibly admit the case, refuse admission to an urgent case of intra-thoracic aneurysm. However, I think there is a great likelihood of it happening unintentionally. I mean that the admitting officer with no lack of ability or care fails to recognize the nature of these cases, which are so difficult to recognize in an early stage.

As regards the sex, eight were males and two were females. That is simply what one would expect, from the general higher proportion of aneurysms in males than in females.

The ages of the patients were 43, 42, 43, 50, 37, 33, 37, 47, 59, and in the remaining case the age is not given, but she is mentioned as an old woman. She had died of phthisis and a partially cured aneurysm was found at the autopsy. So the average age was just over 44½ years.

The occupations did not point much to strains and severe work. They were given as a carpenter, traveller, hawker, mechanical engineer, artist, blacksmith, labourer, housewife, and the old woman with occupation not mentioned. So I think no opinion can be formed about any style of work predisposing, especially on such a small number of cases.

There is nothing to point to lead poisoning occurring in any of these cases, and in only one is there distinct mention of high tension of the vessels and evidence of Bright's disease.

In none of the cases is any history of syphilis given, nor that any signs of it were found. Though in only two is it distinctly negated.

Now taking some of the common signs of thoracic aneurysm as differences in the radial pulses of the two arms, or in the size of the two pupils, or paralysis of the vocal cords, all these we should expect to be wanting in an aneurysm confined to the descending portion of the aorta. This seems to be exactly the case. Two of the cases tend to prove this point. Aneurysm being diagnosed with different sized pupils, a paralysed vocal cord, hoarseness, and brassy cough, but in each a dilated arch was found which probably alone accounted for the pupil and vocal cord signs. If the aneurysm has extended and become superficial with obvious dullness, tumour and pulsation, we only have, then, signs and symptoms common to all thoracic aneurysms, and they need not be considered separately in our present subject, except to mention that, if the bulging be backwards, erosion of the bodies of the dorsal vertebræ occurs without angular curvature, as in Pott's disease, and, I am inclined to believe, with no pain or only slight indefinite pain.

This latter point of absence of pain I gather because, in the patient above mentioned who died of phthisis, an unsuspected aneurysm deeply eroded into three dorsal vertebræ was found. She had been in the hospital some time, and there is no mention of pain in the notes of the case which had been carefully taken. Further, in Pott's disease with angular curvature there is usually no pain except on movement and jarring. When the aneurysm presses on the intercostal nerves there is severe neuralgic pain.

Bearing on this last point, I heard of an instructive case which occurred at St. Bartholomew's Hospital some time past. Persistent neuralgia of the 12th dorsal nerve, after careful exclusion of other causes, led to the diagnosis of aneurysm at the origin of the nerve. Several authorities considered there were not sufficient grounds for the diagnosis. However the autopsy verified the diagnosis.

Now to consider the signs that may occur and in an advanced state probably do more or less occur. Interference with the expansion of the left side, together with weaker breath sounds and diminished vocal fremitus and vocal resonance, and perhaps sonorous and sibilant rhonchi, occasionally increased dullness at base of lung. These signs are often found in cases already by other means diagnosed as aneurysm, but to diagnose an aneurysm by these means alone would seem to me rash and not justifiable.

These lung pressure signs were noted as more or less present in five out of the ten cases, but of these three showed visible pulsation and tumour. So as an early diagnostic sign this is scarcely to be mentioned. Thickened pleura with a gumma or a malignant growth on the bronchus would be a so much more likely cause to be first considered. And further, the aneurysm might enlarge considerably without happening to press upon a bronchus and interfere with the breathing.

Stridor was noted in three out of the ten cases, but it is due to so many other causes that it again can only be a confirmatory sign.

Dyspnoea and palpitation, increased by lying on the left side, though noted in six out of the ten cases, can again, I think, only be considered as a confirmatory sign. No one would probably

think of, much less diagnose, such a rare disease on account of an every-day symptom due to numberless other causes.

Now we come to the two most trustworthy signs, and the most commonly found in an early stage of the aneurysm. I refer to cough and pain in the left side and between the shoulders. Cough is noted in eight out of the ten cases. In one of the remaining two cases the patient had phthisis, so she certainly had a cough, but it could not be considered in the present question. No mention is made of any laryngeal character or brassy ring about the cough, but it might have been hidden and disguised by the phthisical factor of the cough. The only patient in whom cough was distinctly wanting was in a case in which the ribs were eroded at their angles and an enormous pulsating tumour found in the back. So I think cough continuing persistently with a brassy ring about it, which does not answer to remedies, for which no obvious cause can be found after careful investigation of pleura, lungs, tubes and throat, also excluding less common causes of cough, as teeth, ear, hysteria and habit, may perhaps lead a careful physician to think if an aneurysm were possible, and to watch for any signs of its development. I do not think that, on the solitary symptom of cough, one can go much beyond that mild statement.

Now, coming to the consideration of pain. This appears to be the most trustworthy symptom of any. It is mentioned prominently in the notes of all the cases except one, namely, that of the patient who died of phthisis. The pain was described in the majority of cases as of a dull, aching character in the chest, left side and between the shoulders; in two of the cases pain in the head is noted. In three out of the nine cases with pain, instead of a dull, aching pain it was of a sharp paroxysmal and anginal character. In one of the cases a most clear description is given of the pain, beginning as sharp paroxysms of 10 to 15 minutes, these gradually increased in length till they lasted 30 to 45 minutes, and also a dull, aching pain became continuous between the paroxysms.

Now to consider the diagnoses in detail that were arrived at in all these ten cases before death, as far as can be judged by the written notes.

No. 1, diagnosed : had a large pulsating tumour in the intra-scapular region.

No. 2, diagnosed : there was pulsation in the 2nd left interspace.

No. 3, not diagnosed ; filled up in the ward papers as morbus cordis. It was a large fusiform aneurysm.

No. 4, diagnosed : had ruptured into the tissues of the back and formed a pulsating tumour $16\frac{1}{2}$ inches long and $12\frac{1}{2}$ wide, increasing for two months before death.

No. 5, diagnosed : pulsation of sternal end of clavicle.

No. 6, not diagnosed ; this was put in the notes as (?) carcinoma of lung.

No. 7, diagnosed : dilated aortic arch probably caused the paralysed left vocal cord and dilated left pupil, which I remember were, with the brassy cough, the chief means of diagnosis.

No. 8, not diagnosed ; even after a primary rupture three days before death, it was thought to be a pulmonary aneurysm into a cavity at left apex.

No. 9, not diagnosed ; died of phthisis.

No. 10, diagnosed : dilated arch probably caused symptoms. There was surprise at the post-mortem at finding the aneurysm on the level of the 6th dorsal vertebra.

So on summing up these cases one is driven to the most startling and unsatisfactory result that four out of these ten cases were not diagnosed till the fatal rupture or the autopsy. Out of the six that were diagnosed, four had obvious superficial pulsation and the remaining two had a dilated aortic arch, probably alone enabling them to be diagnosed. Therefore as a conclusion to the study of the signs and symptoms and afterwards the diagnosis of the above cases, it would seem that—

Firstly, pain and a cough brassy and laryngeal are the earliest and most reliable signs of a descending thoracic aneurysm. Dyspnoea, palpitation and stridor may occur with, perhaps, weakened breathing, diminished vocal fremitus and vocal resonance, and sonorous and sibilant rhonchi occasionally.

These appear to be the only early signs peculiar to this kind of aneurysm. When the case is advanced, and we get superficial

dullness, tumour and pulsation, any refinements are no longer required. The time has then slipped by when the chief advantage of a correct diagnosis would have been given to the patient by attempting to arrest and cure the aneurysm by vigorous and persevering treatment. At this early stage reasonable hope might be held of absolutely curing the aneurysm and restoring the patient to active and sound health. In the later stage the treatment can only be expected, at its best, to avoid a fatal rupture and considerably prolong the patient's life as an absolute invalid till he dies, worn out with weakness and the complications due to the large intra-thoracic mass.

A very important point to be considered in the prognosis, when these cases are under treatment, is that the large vessels to the head and upper extremities have been given off, so the flow of blood is enormously diminished. This is a most important factor, and gives aneurysm of this part a better prognosis than that of the transverse or ascending portion of the aorta if diagnosed at an equally early stage. However, owing to being placed so deeply in the thorax and not near organs or nerves that would readily indicate its presence, as the pupils or vocal cords, it often advances insidiously till it is beyond hope of successful treatment before being recognized.

Secondly, that aneurysm of the descending thoracic aorta cannot be diagnosed in an early stage with our present means of investigation.

This is certainly a most discouraging statement to make, and I should only too readily wish to be convinced to the contrary. But looking back on the facts of the above mentioned cases—

(1) They were under the care of able physicians ; many of these patients had been a considerable time in the hospital.

(2) They were seen and examined by several observers, thus there was less probability of an individually biased opinion, and only one view of the case considered.

(3) Probably most of these cases would be taken as examples about which to give clinical teaching to students, which would cause stimulation for as correct and full a diagnosis to be made as was possible.

I think we must accept the results of carefully recorded work,

as many of the notes of these cases were, together with the inferences which they necessitate, till we obtain better and more correct results.

REPORT OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND ON THE CARE AND THE TREATMENT OF THE INSANE.*

By E. E. DUQUET, M.D.,
Medical Superintendent of the Longue Pointe Asylum.

Mr. President and Gentlemen,—I received a letter from our secretary on the 24th day of January last asking me for a paper for this meeting. I was then writing my annual report, and I answered that I would not have time to write anything for that date, but that I could prepare a few notes on the "Report of the Medico-Psychological Association on the Care and Treatment of the Insane," and read them at the meeting of the 5th. My intention is to give the circumstances in which that report was prepared as a preface, and to read the report, hoping to interest you with it.

In the course of the year 1889 the London (Eng.) County Council named a committee composed of some of its members to inquire into the workings of the present asylum system, and to find out if it would not be possible to improve the existing system of the care and the curative treatment of the insane.

The committee went to work; they sent letters to the superintendents of all the asylums in England and Wales, and to a few others, to ascertain their views on the present system and on the improvements they would propose in this report.

In the beginning of the year 1890 the committee prepared a report and presented it to the council. This report, which was addressed to non-professional men, was a popular lecture of the wants and alleged shortcomings in the present asylum system. It recommended the establishment of a special hospital in or near the city of London for the treatment of some of its curable insane. This hospital to be visited and treatment given by the

* Read before the Medico-Chirurgical Society of Montreal.

most eminent physicians and surgeons of the London hospitals. The intention of the committee, as stated in the report, was the improvement of the treatment and knowledge of insanity by placing a certain number of the curable insane under conditions similar to those which have been conducive to progress in the study and treatment of other diseases, or in other words, by placing the curable insane under ordinary hospital treatment.

The report, after showing its good intentions of helping the existing system, attacked the asylum physicians by implying that the present system had failed in the study and curative treatment of insanity; that the treatment of the insane had not shared in the great progress of other branches of the medical sciences, except as regards nursing and environment; and that this last amelioration was due more to humanity than to medical skill. It asserted that medical superintendents are mere administrators or house stewards, and have neither the training, the time, nor the capacity for medical investigation.

The report deplors the ignorance of medical practitioners on matters connected with insanity, the want of means of acquiring this special knowledge, and shows the importance of the proposed hospital for this special purpose.

This attack on the part of the committee on a body of such learned men was quickly resented. It formed the subject of the annual address of the President of the Medico-Psychological Association for the year 1890, wherein he disposed of and refuted all the charges brought against them in the report. During the discussion of the president's address it was suggested by some of the members of the Society that they should take this opportunity to give information to the medical profession and to the public at large on the subject treated in the report of the County Council, and by a series of propositions to exhibit the feelings of its members in regard to this question. Some of the best men of the Association were chosen to form a committee, and they presented at the annual meeting of 1891 the following report. They do not pretend that it is perfect; they had to compromise on a great many points, for some of the members had more advanced ideas than those laid down in some of the propositions.

The report can be taken as a summary of the present knowledge on the subject of the care and treatment of the insane in our days :—

CARE AND TREATMENT OF THE INSANE.

The following is the report of a committee appointed by the Medico-Psychological Association of Great Britain and Ireland at the annual meeting in 1890, to formulate propositions as to the care and treatment of the insane. This report was adopted at the annual meeting in 1891.

Members of the Committee,—Dr. Yellowlees, president; and Drs. Clouston, Ley, E. W. McDowall, Needham, Hayes, Newington, Rogers, Savage, Hack Tuke, Urquhart, Whitcombe, Ernest White.

The fundamental resolution passed on the founding of the Medico-Psychological Association of Great Britain and Ireland in 1841 was “that an association be formed of the medical officers attached to hospitals for the insane, whose object shall be improvement in the management of such institutions and the treatment of the insane; and the acquirement of a more extensive and more correct knowledge of insanity.”

In pursuance of these objects, the Medico-Psychological Association considers it right to formulate and make public its deliberate opinion on the following most important subjects :—

It is of opinion that—

Regarding Insanity Generally.

1. Insanity is a symptom of a physical disorder, and results from derangement, primary or secondary, of the nerve centres.
2. This disorder may originate in mental or in physical causes, or in both combined, but is most frequently due to inherited instability, undue worry in daily life, hurtful excesses, and disease in the brain or other organs disturbing it.
3. Marriage into a family mentally unstable is a great risk, and the marriage of two persons from such families is much to be deprecated, since it tends to induce insanity in the offspring.
4. Insanity can be lessened by the avoidance of unwise marriages, by careful obedience to physiological laws, by moderation

in all things, by judicious training and education, both mental and physical, in youth, by adopting such conditions of life and occupations as counteract morbid tendencies, and by the preservation of a calm and equal mind amid the cares and perplexities of life.

5. When the mental disturbance is such as to render home-treatment inadvisable, but yet not such as to demand certification, every facility should be afforded to the patient for placing himself voluntarily under asylum treatment; and the consent of the proper authorities should be obtained after, and not before, admission.

6. It is proper and necessary from both the scientific and economical points of view that provision for the early treatment as out-patients of persons threatened with insanity, or a recurrence of insanity, should be provided for by all committees managing county and borough asylums; and for this purpose the services of the medical staff of such asylums should be made available to the public, under such regulations as may seem to be most convenient to the circumstances of each asylum. Further, it is very desirable that in all hospitals and infirmaries to which a medical school is attached with a lectureship on mental diseases, the physician or surgeon holding the appointment should also be attached to the medical staff of the hospital.

7. While an asylum exists primarily for the benefit of patients resident therein, it should also subserve the public good; and, therefore, every asylum superintendent should be allowed, as a general rule, to meet general practitioners in consultation in mental cases, and, to prevent any possible abuse, each consultation should be reported to the committee of management, if the committee so desire.

8. Every public asylum should be available for scientific research and clinical teaching of insanity to students of medicine, and to qualified teachers.

9. There is a most necessitous class of the insane who are not paupers, and whose means cannot procure for them in asylums the comfort and the care to which they were accustomed in health. It is therefore matter for deep regret and public concern that so

little of our wealth is given to aid this class ; and that the existing institutions, which were mostly founded for such cases, are thus limited in their sphere of action.

Regarding Patients in Asylums.

10. Every patient should be medically examined on admission in the most careful and complete manner, and the results, both negative and positive, should be accurately recorded.

11. The rectification of bodily disorders, even of those which may seem trivial, is most important ; and much more so when such disorders have relation, as they so often have, to the mental disturbance. All the resources of medical and surgical skill and experience should be devoted to this end ; no form of treatment which affords hope of success should be left untried. When the condition is obscure, or the proper treatment doubtful, the superintendent should have power to call in consultants.

12. It is essential in every case to secure and maintain the highest possible standard of bodily health both by medical treatment and by healthful conditions of daily life, as regards air, food, baths, clothing, occupation and recreation.

13. In cases where the nerve-centres are primarily affected, a healthy condition of all the vital processes is of the greatest importance, as tending to lessen functional disturbance and to retard the progress of organic change.

14. The treatment of brain disorder demands caution as well as skill ; a mere repression of symptoms does not prove the wisdom of the treatment. It is often better to guide the superfluous energy into harmless or useful channels, than to administer drugs which shall arrest it for a time by merely stupefying the patient.

15. Concurrent moral or non-medicinal treatment of insanity, or to speak more correctly, the treatment of insanity from the mental side, is of paramount importance. It is essential to convey to the patient a sense of kindly sympathy, help and guidance, with, behind this, a suggestion of order and discipline, the more potent because less prominent and quite impersonal.

16. An essential part of the mental treatment is to distract the mind from insane ideas and to suggest new and healthy

thought by means of suitable employment and recreation. Employment should be prescribed and watched by the physician as carefully as any medicine, it should be applied like medicine to the needs of each individual case, and it should be varied according to the condition of the patient and his previous history. Amusement and recreation come next in value, they should be used on the same principles as employment, and they are most useful when the patients take an active part in them and are not merely spectators. Intellectual recreations in books, magazines and newspapers is very important to many patients. Everything which tends to assimilate asylum to ordinary home life, and which can lessen the inevitable differences between them, is of the first importance. The whole surroundings and conditions of life in asylums should be as home-like and as little irksome as possible; and every patient should have the utmost amount of personal liberty consistent with safety and the proper treatment of his disease.

17. The application of these general principles must, of course, vary according to differences in the patients, the locality, and the individuality of the superintendent.

Regarding Special Classes of Patients.

18. Too strict classification of patients is to be deprecated. It is not desirable that a ward should contain patients of only one type.

19. As a rule, *recent cases* should, unless obviously incurable, be received in a special ward or block, or building, where the number and experience of the attendants would secure the needful care and the special observation of symptoms, and where the character of the other residents would afford the needful example of order, industry, cheerfulness and obedience. It is essential for proper treatment to acquire as early as possible an exact knowledge of the patient's condition and symptoms, and it is very important that the patient's first impressions of the asylum should be favourable to his recovery. A hospital should not be placed in such a position as to deprive patients of out-door exercise and occupation, which are essential as a means of cure in the case of recent as well as other forms of insanity.

20. It is not desirable to associate too many *suicidal cases* with each other during the day, if this can be avoided. The great protection against suicide is the presence of an attendant, but he must rouse, occupy, and interest the patient, not merely match him. By night such cases should be under the observation of a special attendant.

21. Concerning *dangerous and destructive cases*, abundant exercise or occupation in the open air, an ample staff of attendants, attractive surroundings and the wise use of baths and of calmative medicine suffice for the care and treatment of many cases of this class without any need for restraint or seclusion. The admission into county and borough asylums of prisoners who have become insane is much deprecated, since their influence is subversive of morality and discipline.

22. In exceptional cases seclusion and restraint are needful and beneficial. They should then be used without hesitation, but only as a means of treatment and by medical order, and their use should be recorded with punctilious care.

23. The recovery of *convalescent patients* should be tested by greater freedom and increased privileges, by parole, by removal to branch institutions or other suitable private houses, by temporary leave of absence, or by probationary discharge.

24. Although the whole asylum is a hospital, a special *infirmatory ward* or block is essential. It should receive cases of advanced brain disease and recent cases requiring bodily nursing as well as cases of ordinary illness. This ward or block should be fully equipped, like an ordinary infirmary, with every appliance for the mitigation and cure of disease.

25. It is advisable to pass all the attendants through a course of service in this ward or block that they may more fully realize that insanity in all its stages is the manifestation and result of disease.

Regarding Administration, Staff, etc., of Asylums.

26. The proportion of medical officers needful depends largely on the class of patients.

27. In a county asylum receiving only recent cases there

should be an assistant medical officer for about every 60 yearly admissions. In a county asylum receiving only chronic cases there should be an assistant medical officer for about every 400 in residence. In an asylum receiving both recent and chronic cases one assistant medical officer to every 100 yearly admissions might suffice.

28. No public asylum should be without an assistant medical officer, and the superintendent and medical officers should not be so tied by routine ward-work as to have no time for unexpected visits, for special attention to new cases, for taking an active interest in the amusements of the patients, and for the cultivation of personal influence and friendliness with all. Resident assistants acting under the medical officers are a very valuable addition to the medical staff of an asylum, and the appointment of such officers forms an important means of extending the knowledge of insanity in the profession. Pathological work is a most important part of the duty of the medical staff, and, while all should share in such work, one member of the staff in large asylums should be specially devoted to it. The results should be carefully recorded.

29. An asylum and everything about it exist for and concern the welfare of the patients, and should be made subservient to that end. Everything, therefore, should be under the control of the medical superintendent. In administrative and non-medical affairs his position should be purely that of a director, with responsible lay officers under him. Such duties may thus be made a relaxation instead of a burden.

The selection and training of attendants demand the utmost care, and every asylum should have arrangements for instructing them in their difficult and trying duties as recommended by the Association at the annual meeting of 1890. The wisest plan of treatment is in vain unless it can be carried out by a competent nursing staff.

31. The services of attendants should be acknowledged not only by good wages and comfortable quarters, but for the better discharge of duty they should be frequently relieved from its burden.

32. The best size for an asylum depends on the class of patients and on the construction of the asylum buildings. A county asylum which receives only recent cases and passes them on when they become probably incurable should not have more than 200 to 300 patients; an asylum which has both recent and chronic cases should not have more than 600 or 700; while an asylum for chronic cases might easily supply proper care and treatment for 1,000 patients or more.

A COMPLICATED CASE OF LA GRIPPE.*

By J. A. GRANT, JUN., M.D., OTTAWA, ONT.

Mrs. C., an extremely robust, healthy married woman, æt. 28, who has never had any illness except a confinement two years ago, which she came through in a model manner. Her husband first took the grippe, then her daughter, aged two years; both of these I put to bed early, and although the onset in each case was severe, the attack proved mild, and they recovered with no complication save nervous prostration. I am sorry to say that the subject of these notes did not complain to me until twenty-four hours after she had been attacked with the grippe, but remained up nursing the other two, and thus aggravated her attack greatly. She is at present seven months pregnant. When I first saw her on the morning of December 23rd, 1891, she was complaining of pain in her limbs and very severe headache. Temperature 104° ; pulse 130. I put her on antipyrin gr. viii every two hours. In the evening I found her headache had improved; temperature $104\frac{1}{4}^{\circ}$ and pulse 135. For the first time she had a slight dry cough and complained of a "soreness in the back." More as a matter of routine than I always follow in grippe, I examined her chest and found pneumonic consolidation of the right base involving half the lung. I then questioned her about having had any chill or rigor, but could get no history of an onset further than a slight pain in that side, which came on shortly after my morning visit, and only lasted a few minutes. I then put her on a mixture of ammon. carb., liq. ammon. acet.,

* Read before the Ottawa Medico-Chirurgical Society, January, 1892.

and syr. pruni virg. ; commenced poulticing her side, adding mustard to the first. In the morning (24th) I found her temperature 102° , pulse 140, and respirations 38 ; she had rested poorly, complaining more of her side. On examination, I found there had been no extension of the trouble in her lung ; she was taking nourishment fairly ; her skin was moist, her kidneys had acted, and her tongue was slightly coated but moist. In the evening her temperature was 104° , pulse 160, and respirations 45 ; a pulse respiration ratio of 1 to $3\frac{1}{2}$. As her bowels had not been opened for two days, I ordered a dose of castor oil. For the next two days there was not much change in her condition, the pulse ranging from 140 to 160, the temperature between 101° and $103\frac{1}{2}^{\circ}$, and respirations between 26 and 31. On the 27th she was complaining of some uterine pain, and fearing a premature labour, Dr. H. P. Wright saw the case with me in the evening ; her temperature was then $103\frac{1}{2}^{\circ}$, pulse 140, and respirations 32 (the uterine pain had ceased); and with a view to reducing her pulse we gave her pulv. opii gr. $\frac{1}{2}$, with ipecac. gr. $\frac{1}{2}$ and quinæ sulph. gr. ii every two hours while awake. On the morning of the 29th her temperature fell to normal and her respirations to 30, but her pulse was 120. From this time on her pneumonia made rapid progress for the better, and by the end of the second week the hepatized portion of the lung had almost completely cleared, but her pulse remained high, ranging between 100 and 115, being at the same time of poor volume, and it was not until two weeks after the lung had cleared that her pulse went below 100 ; and during all this time the slightest exertion would cause an intense feeling of faintness. Latterly I had her on a tonic with digitalis, and was on the point of changing it for strophanthus when I found a slight improvement in the pulse, which continued.

The points of interest in this case are :

(1) The insidious onset of the pneumonia ; this I have noticed in nearly all my cases of pneumonia complicating "grippe," and they are so frequently associated that one is always on the watch, otherwise the disease might be overlooked for twenty-four or forty-eight hours.

(2) There being no history of exposure or other cause, further than what might be called the septic influence of the grippal poison, or "grippal toxine" as some call it.

(3) The extremely high pulse from first to last, which was out of proportion to the temperature, respiration, and other pneumonic symptoms. Dr. Althaus says that the various neuroses, such as headache and other kinds of pain, delirium, insomnia, coma, cardiac and respiratory crises, are caused by the action of the grippal toxine on the various centres in the bulb, and I think that the tachycardia in my case was due to the direct influence of the grippal poison on the inhibitory centres in the bulb, affecting the heart through the pneumogastric. The pulse respiration ratio, being nearly normal throughout the illness, never falling below 1 to $3\frac{1}{2}$, which it did on the 24th, and the manner in which the lung cleared up shows that there was very slight tax upon the heart as far as the pneumonia was concerned.

A REMARKABLE CASE OF QUININE RASH PRODUCED BY VERY SMALL DOSES OF THE DRUG.

BY FRANCIS J. SHEPHERD, M.D.

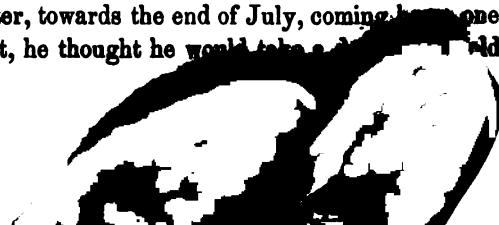
The rashes produced by the internal administration of drugs are sufficiently uncommon to be of interest. Many drugs, it is well known, will produce rashes, more or less severe, in individuals with an idiosyncrasy. Some drugs, however, produce a rash merely by long-continued administration in large doses in persons without any special idiosyncrasy—*e.g.*, iodine, bromine, etc. Among the many drugs which produce rashes, the most familiar are copaiba, bromides, iodides, tar, turpentine, cubebs, belladonna, arsenic, antipyrin, etc. One of the most frequently administered drugs is quinine, and considering the enormous number of times it is given in large and small doses, the number of cases reported in which it produces rashes is comparatively few. All practitioners have seen quinine rashes from the administration of large doses of the drug. The most common forms are the erythematous; the urticarial, the purpuric, bullous vesicular, and gangrenous forms are much more uncommon. In

some cases the rashes produced by quinine and other drugs have been mistaken for scarlatina.

The case I am about to relate is a somewhat rare one, both because of the severity of the rash and the small dose which produced it :

A. B., a strong, robust man, aged 41, whom I had frequently treated for eczema and rhus poisoning, and whose skin was easily irritated, consulted me in June, 1889, for an eruption of boils which had been troubling him for some time past. He felt rather out of sorts, and I prescribed for him citrate of iron and quinine in five-grain doses. Next evening he came complaining of great heat, soreness, and a burning sensation in groins and on inner sides of thighs. On examining him I found these parts covered with large claret-coloured patches, which also extended a short distance up the abdomen. The skin was swollen and tender ; in the centre of the red patches purpuric spots could be seen, which did not disappear on pressure. The peripheral portions of the patches were purely erythematous, the colour rapidly disappearing on pressure. As he had always perspired a great deal about the groins, he attributed this rash to having over-heated himself, although he affirms that he thought the medicine had something to do with it. He had only taken three doses of the citrate, or 15 grains (three grains of quinine). I prescribed a lead lotion for him, and told him to stop his medicine. The next day the eruption had spread to the feet, and the hands were also beginning to be affected. On both wrists was a well-marked vesicular eruption, which did not itch. The eruption was confined to the abdomen, thighs, hands and feet. As it was accompanied by a great deal of burning and soreness, the patient was confined to the house, being unable even to wear slippers. At the end of ten days desquamation began, comparatively small flakes of skin coming away from the thighs, but the skin of the palms of hands and soles of feet coming away in one piece. In a few days more the patient was able to attend to his business.

The strangest part of the story is yet to come. About a month later, towards the end of July, coming home one evening fagged out, he thought he would take a dose of his old medicine as a



pick-me-up. This he did, taking the usual dessert-spoonful (five grains) in a little water. Immediately he felt the old sensation in his thighs and about scrotum, and by next morning the same claret-coloured patches with purpuric spots reappeared on thighs and abdomen, and were followed next day by a similar rash on hands and feet. The sensation of burning, itching and soreness was quite as severe as during the first attack, and the eruption acted in exactly the same way, the skin desquamating in large flakes in about ten days. Since that time he has carefully avoided quinine in any form, for the last eruption was brought on by a very small dose of quinine, viz., one grain. It is fortunate that a large dose of quinine was not exhibited, for there is no knowing what untoward effects it might have produced. No doubt there would have been extensive sloughing of the skin, as has occurred in some reported cases.

I omitted to mention that in neither of these attacks was there any elevation of temperature or other constitutional disturbance.

Retrospect Department.

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

PREPARED BY T. JOHNSON-ALLOWAY, M.D.,
(Instructor in Gynæcology, McGill University.)

Medical Gynæcology, by J. H. ETHERIDGE, M.D., Chicago. (*Amer. Jour. Med. Sci.*, Jan. 1892.)—Dr. Etheridge says that many symptoms in gynæcological patients are reflexes from functional derangements arising from the original gynæcological malady. He gives in illustration the case of a patient confined to bed with an acute metritis suffering from cephalalgia, and traces a pathological chain, not from the uterine engorgement to the headache, but from the physical quietude enforced by the uterine malady to a gastric dyspepsia, which he would have us believe is the direct cause of the cephalalgia. This is certainly not good pathology, there are so many arguments against it. For instance, every man laid up for long periods with a broken thigh would have constant headache, which we know is not the case clinically, although he may, and often does, have gastric

dyspepsia. Women during the puerperium, if it should be normal, although the bowels may remain unemptied for days at a time, and they complain of gastric disturbance therefrom, have rarely headache without accompanying fever. There is no cephalalgia so severe as that which is recognized and known as ante- and post-menstrual, in chronic metritis. This headache begins before the flow, disappears when the flow is well established, and reappears with greater violence a day or so following the arrest of the flow. The cephalalgia here is simply a reflex manifestation with others—such as nausea, vomiting, facial neuralgia, palpitation, borborigmus, and other functional disturbances—from a uterus the tissues of which have become cicatricial and resisting to the influx of blood due to increased growth of connective tissue in its walls. With such a metritis we have also an ovaritis, the diseased structure of which also resists increased blood pressure and helps in the transmission of abnormal impressions to the nerve centres. From these centres impressions are conveyed to the various viscera, setting up disordered functions in them; the stomach being one of these organs, is affected by a gastric dyspepsia. A strong proof that certain gastric intestinal disturbances are a direct outcome of disorder of some nerve centre is seen in the offensive alvine evacuations of the paralytic and insane. So that Dr. Etheridge must reverse his pathology and admit that the metritis *does* produce the cephalalgia and other reflex neuroses. Dr. Etheridge's paper throughout contends for the treatment of symptoms by the administration of drugs, which from a clinical standpoint is not generally looked upon as good teaching.

At the annual meeting of the American Gynæcological Society held at Washington last September, Dr. Gill Wylie read a paper on "The Influence of Imperfect Development as a cause of Uterine Disease." He said the most important influence at work in causing uterine disease is a tendency to restrict the physical development of females just at the time when they were changing from girls to women. The generative organs are practically dormant until about the tenth year, when they begin to develop and make a large demand on the system up to about the sixteenth

year. To ensure full development during this period the girl must have a surplus of physical and nerve force. If the girl is pushed at school, or her force is used up by constant contact with older intellectual people during this period of development, she is almost certain to have a leucorrhœal discharge and dysmenorrhœa, and an imperfectly developed uterus, with disease of the glands and follicles, which disposes her to catarrhal endometritis and new growths, such as cancer and fibromata. If marriage and pregnancy follow, the labour is apt to result in laceration of the cervix, or the catarrhal condition establish sterility for life. As a remedy for all these evil consequences the author recommends that everything should be done to maintain the general health of the individual,—out-door exercise, pleasing mental occupation, avoidance of forced cramming and contact with older people. The author called special attention to imperfect development of the sexual organs as a cause of serious vitiation of the general health of females.

[There is a great deal of solid truth in Dr. Wylie's views in regard to this subject. It has been the reviewer's experience to daily meet with young women of a delicate frame who have been, we might say, brought up on iron and literature to fit them for school teachers or some such occupation. These girls pass from one physician to another for years, and at last, when driven to the gynæcologist, a badly-displaced small uterus is found, profuse uterine catarrh, endometritis, extensive cervical erosion and great tenderness over the whole pelvic floor. There is constant backache, pain in one or both infra-costal or iliac regions, causing a desire to sit down on every possible occasion ; there is more or less constant headache, nasal engorgement, a fulness in the region of the frontal sinus, aggravated at the menstrual periods ; pressure-pain at the cranial vertex due to engorgement of the large venous sinuses. In many of these cases we have also an interesting condition which is fairly constant in its occurrence,—I refer to asthenopia and pain in the eye, for which the ophthalmologist is so often consulted, but can find no evidence of local eye disease, nor do glasses effect any improvement. The condition is simply a link in the chain made

up of all the other congestive catarrhs alluded to, and should be treated entirely by rest to the generative organs and replacement of the dislocated parts. In fact, wherever we have constant irritation and congestion of the female generative organs, no matter what the cause, we will have reflex disturbances in distant parts of the body, so great is the influence exerted on the entire female organism by the generative system.]

Criticism on some of the lesser Gynæcological Manipulations.

—CROOM (*Edin. Med. Jour.*) says three factors seem at work in modifying our opinions very considerably with regard to many of the minor gynæcological operations and appliances which have been in constant use. These three factors are (1) the improvement in and education of practitioners in the simple manual examination of the pelvic organs, (2) an improved and revised pathology of the infra-vaginal portion of the cervix, and (3) perhaps especially, the increased knowledge which abdominal section has thrown upon the contents of the pelvis. The fact has been forced upon the author that a large number of cases where abdominal operations have become imperative, have been distinctly traceable to interference, more or less marked, with the uterus. He condemns, in unmeasured terms, the speculum, the sound, and the intra-uterine stem. He extols dilatation of the cervix and curetting. He calls attention to the three following rules:

1. That the diagnosis of all pelvic and most pelvi-abdominal conditions should be made slowly and gently with the unaided hands, and upon the examination thus made the practitioner should train himself to rely.

2. That no mechanical aids to sight or touch should be employed, except under exceptional circumstances.

3. That as a large proportion of the risks and accidents of *minor* gynæcological operations are due to a want of appreciation on the part of the physician of the condition of the uterine appendages; no operation, however trivial, should be undertaken until their state and relations have been ascertained with as much accuracy as possible.

Abdominal Abscess and Ventral Hernia.—DR. H. J. HANKS made some suggestions in a paper, to prevent abdominal abscesses

and ventral hernia after laparotomy. He said : Make a clean wound. Do not retract the edges with too much force. Do not use too hot water or too strong germicides. Do an aseptic operation. Remove the dressing every second day. Never use the drainage-tube when not necessary. Never retain it *in situ* more than twenty hours ; keep the tube sweet and clean. He said ventral hernia was more frequent than generally supposed. He used silkworm gut. [Dr. Hanks' experience must be peculiar since he thinks it necessary, during the present status of surgery, to caution abdominal surgeons how they are to avoid mural abscess and ventral hernia. These conditions are due to either unavoidable accident, or to ignorance on the part of an inexperienced operator. Dr. Hanks is decidedly wrong when he advises the dressing to be changed every second day, because if the operation has been properly conducted, frequent changing of the dressing is just the way to get suppuration and sepsis. No dressing should be changed without cause until the sutures are removed, about the seventh or eighth day after the operation. The craze with some operators of oversuturing the wound in the form of buried sutures is largely accountable for abscesses and hernia.]

Rupture of the Uterus during Labour.—DR. COE read a paper before the American Medical Association, March 5th, 1891, on "*Cœliotomy for Rupture of the Uterus during Labour.*" The author records his experience of four cases, three of which were fatal, one successful. In the successful case the operation was performed two hours after the accident, the others were seen from twelve to twenty hours after the accident, and were operated on shortly afterwards. The author says many cases of spontaneous rupture are not recognized by the general practitioner. Profound shock after delivery should always awaken suspicion, and a thorough examination should be made. As regards the treatment of rupture, it should be viewed from a purely surgical light, and the fact that cases so far reported have been in the majority fatal is no reason why cœliotomy should not be called for in such cases, as it is in gunshot wounds of the abdomen. In the fatal cases, it will always be found that

valuable time has been allowed to elapse and the operation was done many hours after the infliction of the injury. Two methods of active treatment are here recognized, namely—(1) Drainage per vaginam; (2) abdominal section. Without opening the abdomen it is frequently impossible to determine the nature and extent of the tear; the presence of active hemorrhage; the presence of blood or amniotic fluid in the abdominal cavity. The operation should be done before the uterus is emptied.

The Action of Antiseptics on the Peritoneum.—Drs. Delbet, Grand, Maison and Brenet (*Annales de Gynéc.*, Jan. 1891) announce the result of a series of experiments performed to ascertain the action of antiseptics upon the peritoneum. They admit that there are certain disadvantages in the use of antiseptics. In the resistance of a healthy system to micro-organisms, cells play an active part. All antiseptics are poisons to bacilli, and if poisonous to these simple unicellular organisms, they are also poisonous to the highly complicated multicellular tissues in the human body. If, then, any antiseptic kills bacilli, it must also destroy some of the cells belonging to the patient's body which it touches. The destruction of these cells diminishes the resisting power of the subjacent tissues, and should the antiseptic have failed to kill all the bacilli in the neighbourhood, some of the surviving germs may enter the unprotected tissues. In the case of superficial wounds dressed with antiseptics, the good done by germ destruction must greatly exceed the harm caused by damage to connective tissue cells, which have feeble resisting powers against bacilli; on the other hand, the peritoneal endothelium is now known to resist the incursion of germs with great vigour as long as it is healthy and uninjured. Larnelle never succeeded in finding a single bacillus within the substance of a peritoneal endothelial cell. Possibly these cells secrete a substance which poisons bacilli. When the endothelium of an area of the peritoneum is damaged or destroyed, the resisting power of that serous membrane is greatly impaired. The common connective tissue cannot offer adequate protection to the system. May not antiseptics destroy the endothelium, or at least set up grave changes, impairing its resisting powers? To settle this

question Dr. Delbet and his colleagues have undertaken the experiments which they now describe. Their method consists in carefully touching up a tract of mesentery in a dog with an antiseptic, and then flushing the peritoneum. Another tract is treated in the same way, and the peritoneal cavity is once more washed out. At the end of a stated time the animal is killed. With manifold precautions pieces of the mesentery treated with the antiseptic are removed and compared with other portions not so treated. The endothelium was stained with nitrate of silver. The nuclei seemed unaffected, but the protoplasm underwent great changes. The first modification was a retraction of the endothelial cells at their pointed prominences. Hence little black spots appeared where the meshes of the well-known network pattern, formed by contiguous endothelial cells, crossed each other. This "angular retraction" passed into "angulo-marginal retraction." Black points appeared at first along each mesh, indicating partial separation of the margins of contiguous cells. When the separation was complete the meshes looked unusually thick. The next stage is "fragmentation," the protoplasm becoming granular and breaking up. Partial, and lastly complete, desquamation follows. The above stages are produced more rapidly or slowly according to the power and nature of the antiseptic, some agents causing desquamation at once. In any case the endothelium, a bulwark against sepsis, is distinctly damaged.

The Prophylaxis of Laceration of the Fascia supporting the Anterior Vaginal Wall. (Dr. Watkins.)—1. In the support of the vesico-vaginal septum while the foetal head is entering the true pelvis; that is, the prevention of the engagement of the vesico-vaginal septum between the head and the pubes. 2. In the prevention of excessive pressure of the head upon the pubic arch (*Schatz*). 3. In the employment of the usual measures for hastening involution.

The Radical Cure of Hernia in Woman.—M. LUCAS (*Med. Press*) presented before the Société de Chirurgie of Paris some observations on the radical cure of hernia in woman. He said that this form of hernia is not at all infrequent in the opposite sex, and when the woman is young she is very much inconvenienced by the bandage; and later on, when pregnancy takes

place, the apparatus is out of necessity laid aside, and consequently the volume of the rupture is increased. Inguinal hernia, on the other hand, differed considerably in woman from what we are accustomed to meet with in man, and he would make a few remarks on the congenital form, which he found to be very frequent. The congenital variety is due to the persistent patency of the canal of Nuck. Out of a total of 231 radical cures which he practiced for non-strangulated hernia, 14 were on women, and of this number 10 were congenital. The anatomical condition of the hernial sac and its connections show clearly that the lesion is congenital; the serous lining of the sac is intimately confounded with the fibres of the cord; it is frequent to find complementary small cysts reaching to the labium majorum. The volume of these hernia is not generally very considerable; he observed, however, one case where it descended nearly to the knee. The hernia is particularly painful and irreducible. For the operation he would advise the incision to be made from above downwards, in order to isolate the sac and the fibrous cord. The round ligament forms an integral part of the sac and impossible to isolate, contrary to that observed in man, where the spermatic cord can always be separated. The sac should be carefully dissected into the abdomen, and then cut across along with the round ligament. When the sac is opened it is frequent to find the ovary in the cavity or at its orifice; it may be normal or atrophied. M. Lucas has frequently removed it. One of the most happy results of the operation is the cessation of pain.

Sponges.—Dr. E. Maylard, in the *Annals of Surgery*, publishes some interesting results of experiments with sponges used in surgery. He finds that fine close sponges are very difficult to sterilize; that the coarse, open texture sponge can be made sterile by a solution of 1–2000 bichloride, but that 1–40 solution of carbolic acid has no sterilizing effect on them. The finer and more expensive the sponge the more difficult it is to make it aseptic. He also discovered that sponges will not stand a higher fluid temperature than 90°F. without becoming impaired by shrinkage.

[The reviewer has of late discarded fine Turkish sponges for the above reasons. When impregnated with blood they are ex-

ceedingly difficult to clean, and must therefore be more difficult to make surgically aseptic. He has adopted a plan which has been very satisfactory, namely, obtaining coarse West Indian sponges highly bleached, the gritty heart completely removed by tearing with the fingers when the sponge is in water, and after washing in about fifteen or sixteen relays of water they are soaked for an hour in strong Condly until they are almost jet black. They are then bleached by dipping for a few minutes in a solution of sulphurous acid, washed again in filtered sterilized water, and put for one week in a solution of 1-1000 sublimate. They are then washed again in filtered sterilized water and put away in cotton bags to dry for use. Before using, however, they are again placed in the bichloride solution the day before the one on which they are to be used. The only objection to the use of these coarse sponges is that they become very friable and tear easily. This objection he has overcome by enclosing each sponge in a small bag made of sterilized bleached cheese-cloth, closed by a running string, tied, and cut short. This adds greatly to the perfection of the sponge in making it more absorbent, protects the parts from actual contact with the sponge texture, it can much more easily be recognized by the fingers amongst the intestines or wherever placed, and withdrawn without danger of tearing and leaving pieces of sponge behind. These bags are put through the same sterilizing process as the sponges.

Menopause, or Change of Life.—T. Gaillard Thomas, M.D., says (*Annals of Gynæcology*, May, 1891):—After passing through the first three great functions peculiar to her sex, viz., ovulation and menstruation, sexual intercourse and maternity or parturition, and having reached about the fiftieth year of her life, a woman is prepared to pass into the period known as the menopause. From this time onward the ovaries, fallopian tubes, uterus and vagina, which have been in a state of busy activity, now undergo a retrograde metamorphosis. The idea of attributing all the symptoms that a woman in this period may have to "the change of life," is a common one, but is fallacious. One doctor tells a patient who is suffering from metrorrhagia, has a

great deal of pain and profuse watery discharge, that it is all due to the change of life. Upon being examined by another physician, a steadily progressing cancer of the cervix is discovered. Another patient has an abnormal enlargement of the abdomen and is told the same story. Upon examination a large ovarian cyst is found. The atrophy of the cervix may be more rapid than that of the body of the uterus, and so cause retention of the discharges from the uterine mucous membrane, giving rising to physo-, hydro-, hæmato-, and pyo-metra. These conditions are very rare, the author having seen but three cases. Their rarity should, however, make us all the more careful about recognizing them. When the cervical canal closes abruptly, the discharges may undergo fermentation, and as a result the uterus may become distended with gas. The last case of this nature occurred in the author's practice was that of a lady 60 years of age, upon whom several physicians had made the diagnosis of cancer of the uterus. As she was walking about there occurred suddenly, from the vagina, a gush of fluid of a pinkish, watery character, and of a disagreeable odour. The patient felt entirely relieved from a sensation of abdominal fullness, previously felt, as a result of this explosion. Since that time every two months she had had a similar discharge and the physicians accordingly made a diagnosis of cancer of the endometrium. She had stopped menstruating ten years before. The author found, upon examining the abdomen, a globular mass as large as the head of a young child. Hydro-metra was at once suspected; patient was anæsthetized and a uterine sound forced through the cervical canal, after first snipping the external os with a pair of scissors. A dilator was then passed through the cervical canal, its blades forced apart, and about ten ounces of a dirty pinkish fluid gushed out. The uterus was then moderately scraped with a curette and was found free from hydatids. A glass stem was passed through the cervical canal and the patient was cured.

A peculiar condition affecting the vagina of widows and virgins, but not usually married women, is known as senile vaginitis. Two varieties are known, the adhesive and the hæmorrhagic. The adhesive results in closure of the vaginal canal, wall being glued



to wall, possibly throughout its entire length, by an adhesive inflammation. As such a patient has no use for a vagina, no treatment is necessary. In ninety cases out of a hundred, malignant disease somewhere in the genital tract will be found to be the cause of hemorrhage occurring after menstruation has entirely ceased, but occasionally this recurrence of hemorrhage, when apparently due to cancer, is really due to hemorrhagic vaginitis. The red mucous membrane of the vagina seems to sweat blood. Treat this condition by separating one wall of the vagina from the other constantly by means of a glass vaginal plug, making alterative applications to the parts; at times plug the vagina with iodoform gauze and put the patient upon general tonics for the restoration of her blood state, and you will cure this supposed cancer in two or three months. At the time of the menopause the mind is often affected in sympathy with the sexual organs, and the woman may be troubled for years with what is known as senile hysteria. The uterus may become prolapsed as a result of certain conditions existing at this time of life. Excessive weight above may cause the ligaments to give way and the uterus will come down out of the body. The vagina, after losing its surrounding support of fat, and becoming atrophied, produces traction from below, which causes the uterus to descend. There are four elements that must exist before a woman can present a picture of perfect health. The blood state must be normal, her nerve state must be good, her muscular condition strong, and her mental state well poised. The author warns us against becoming specialists too soon and against becoming specialists in opposition to common sense. Cases of general diseases are met with that have been treated by suture of a small and insignificant laceration of the cervix. Cases of chlorosis, presenting themselves for treatment for amenorrhœa, have been treated by doing the worst possible thing for them—*i.e.*, bringing about the menstrual flow. All roads in pathology do not lead to the pelvic viscera. In conclusion the author says: "Specialism tends to narrow the mental vision, to limit the pathological view, to disturb the mental balance. Beware how you allow it to do so with you. These are its evils; its advantages far outbalance

them, and I look upon specialism in medicine, when freed from the evils which I have mentioned, as one of the great agents of its advance.

Accidental Hæmorrhage occurring during First Stage of Labour, at Term. (COE.)—There are two sets of symptoms, initial and final. Most writers affirm that the latter are alone reliable, and are recognized too late for successful interference. The writer believes that it is possible to diagnose accidental hæmorrhage at its inception by careful attention to the initial phenomena, especially irregularity and feebleness of the labour pains. Sometimes they are strong and then die away, but in many cases they are feeble from the outset. The patient complains of continuous pain in the lower part of abdomen, which gradually grows worse and assumes a bursting character. External palpation may at first reveal nothing abnormal; auscultation shows the heart's action to be feeble and irregular. This shows the foetus is subjected to some unusual disturbance, not explainable by the ordinary effect of prolonged labour. The patient may be very restless and irritable, the pulse not affected, and she will be able to walk about, thus masking any serious outcome. External bleeding has been absent in three-fourths of the cases reported. As Dr. Goodell says, it should be regarded as a confirmation of a diagnosis already made. The pulse and general appearance now indicate internal hemorrhage; the labour is entirely arrested, she grows weaker, collapses, and may die at any moment, or after rupture of membranes strong pains may come on, and she may be delivered, only to succumb to post-partum hemorrhage, if not to shock.

Treatment.—There is much difference of opinion in regard to treatment in these desperate cases. All things considered, however, the following is the best: Stimulate vigorously the patient by mouth, rectum and hypodermically while aid is being sent for. Under complete ether-anæsthesia the os should be carefully dilated manually. The membranes should not be ruptured. Version should be performed with care, then ergot should be administered hypodermically, and extraction carefully and slowly carried out in order to give the uterus time to recover its tone.

To prevent post-partum hemorrhage, the hand should be rapidly passed into the cavity of uterus, the placenta and clots removed, and the cavity at once packed with iodoform gauze. This will promptly arrest hemorrhage, even if the uterus does not contract. While all this is being enacted by the surgeon, the anæsthetiser should pull the patient's head and shoulders off the bed on to the floor so as to stimulate the brain centres as much and as long as possible. As soon as consciousness returns, large rectal injections of salt solution (3i to the pint) should be given repeatedly.

Pruritus Vulvæ.—Mr. J. C. Webster of Edinburgh publishes an interesting paper on this subject. (*Edin. Med. Jour.*, July, 1891.) Jaggard says that "pruritus (apart from local causes) is a functional disease of sensation of reflex origin without structural alteration of skin." The latest, however, is that of Bronson's, who says "the disturbance in pruritus is of the nature of a dysæsthesia, due to the accumulated or obstructed nerve excitation with imperfect conduction of the generated force into correlated nervous energy." Dr. Webster criticises the above two nonsensical theories as follows: "Such statements, made with all the assurance of certainty, are worthless, being mere assumptions unsupported by physiological or pathological evidence. They are scientific expressions of ignorance, and are the common resource of writers who delight in verbose and well-padded paragraphs, and who appear to believe that additional words mean additional facts." *Pruritus vulvæ* proper, the condition to which there is more or less constant itchiness of the external genitals, is a disease about which nothing is practically known. Apart from local excoriations, eruptions, hypertrophies and malignant disease which may be set up by long-continued scratching, the habit of masturbation may be brought about, the patient's moral balance of mind may become greatly disturbed by the constant torture, and, indeed, sometimes complete nervous break-down may occur. As regards the immediate seat of the itching, observations have been somewhat inexact. Zweifel and Küchenmeister say that the seat is in the clitoris and about it; others make the area somewhat wider.

Pathology.—Mr. Webster gives a short report of three cases

which came under his observation, and the tissues of which were examined microscopically. He found that the changes were of the nature of a slowly progressing *fibrosis*, affecting chiefly the nerves and nerve-endings of the clitoris and labia minora.

Treatment.—Mr. Webster says the orthodox plan of treatment is to cause the patient to apply every known lotion and ointment for several months, until at last in despair she seeks the advice of others, who do just the same and with equal failure. He concludes that the only efficient remedy consists in *complete removal of the affected parts*. Mr. Webster followed this plan of treatment in his three cases with complete and permanent relief.

Concealed Rupture of the Perineum a factor in Puerperal Fever.—Dr. J. H. Thompson writes a paper on this subject in the *British Gynecological Journal*, Nov., 1891. He draws attention to the necessity of examining carefully the vagina as well as the perineum after the labour. Small tears in the vagina just anterior to the perineum opens with a "large lymphatic lacuna" which communicates directly with the lymphatics of the peritoneum. Dr. Thompson has made a series of dissections on the cadaver, and finds that injections of indigo solution pass directly from this lacuna to the lymphatics of the peritoneum. The author says that discharges collecting in such a wound will decompose rapidly and give rise to sepsis quicker than if the whole perineal body down to, or through into, the bowel had been lacerated. As in this case drainage will protect, but in the former no such protection exists. He advises sewing up the wound with *silver wire*.

Dr. Thompson lives in Rome, and if we live in Rome we must do as the Romans do. In the more northern part of the world, however, we make the vagina first aseptic and then sew up the wounds, but we do not use wire, and would advise Dr. Thompson to try sterilized catgut in future. Internal or concealed vaginal lacerations are well recognized as a cause of puerperal sepsis, and have been so for many years.

Perforation of Uterus by Sound and Fatal Sublimite Poisoning.—Dr. Gebhard (*Nouvelles Arch. d'Obst. et de Gynec.*, Aug. 1891) recently observed a patient who had been under treatment

for gonorrhœa. A 1-5000 solution of sublimate was thrown up into the uterus every two or three days in the out-patient room by means of a Bozeman's sound. Upon the third occasion the patient complained of severe pain after about one pint of the solution had been injected. Vomiting and faintness came on rapidly. Perforation of the uterus and entrance of the solution into the peritoneal cavity was diagnosed. Opium was given. Dysentery and complete anuria followed; mucous discharged from rectum constantly; the rectum protruded and was ulcerated: stomatitis with some slight salivation began on the third day. The patient died on the eighth day. Everything seems to have been done by Dr. Gebhard in this case but the right one. When he had discovered his clumsy error in having perforated the uterus, why did he not open the abdomen at once, wash out the cavity of all poisonous fluid, and repair the two perforations of the uterus which were found at the autopsy. There was peritonitis. The entire large intestine and four inches of the ilium were ulcerated and in parts sloughy; one ulcer had perforated the sigmoid flexure.

Correspondence.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS,—I would like to draw the attention of the readers of your JOURNAL to certain appearances of the tongue, observable in cases of influenza, which I think are characteristic. The literature on this point, as, indeed, on the subject of the disease itself, is none too full, but if each one will contribute his share of the results of observation, this defect can speedily be remedied.

Peacock, in Quain's Dictionary of Medicine, describes the appearance of the tongue, in the simple catarrhal form of the disease, as "usually moist and covered with a white creamy fur, but, occasionally, it is morbidly red at the tip and edges." In the type of the disease with pulmonary complications, the article reads that "the tongue is usually red at the tip and edges, and covered at the dorsum with a creamy mucus or with a whitish-brown fur" and in the gastro-intestinal type, "the tongue is at

first moist, covered with the usual whity-brown fur and red at the tip." So that in the two latter forms of the disease, and occasionally in the first, the tip is red, the dorsum being covered with a whity-brown fur.

Bristowe, in his very short article on Influenza, merely says "the tongue is covered with a moist fur."

Neither author has said anything about the condition of the papillæ, whose state I think constitutes a diagnostic point.

In the course of some 150 cases in the past three months, I have noted that the dorsum of the tongue is covered with a whitish fur of but moderate depth, its thickness diminishing rapidly towards the tip, which is always bare. The edges for about an inch back from the tip may also be bare or may be covered by a delicate whitish film. The tip or edges may or may not be red, but the tip generally is.

The papillæ of the dorsum are not enlarged, but some of those of the edges, for an inch back from the tip, on either side, invariably are, and often a few are found on the tip itself. The rough diagram accompanying will show a typical case, the dots



at the tip representing enlarged papillæ. The size of the papillæ is that of very small rape-seed, and the colour of a bright red. In a slight attack these red points are few in number, and you will need to examine the tongue in a fair light, when you will find, perhaps, four or five on a side. But in a well-marked case, twenty or more may be found on each margin. Even when the edges are covered with the thin whitish film before mentioned, a few papillæ will be seen through it, and it is in such cases that a fair light is needed for the examination.

I have found these appearances so constant that if I fail to find them I do not class the case as influenza—firstly, because its other typical symptoms are not all present; and, secondly, because we may have catarrhal symptoms, due to simple ex-

posure, much resembling the symptoms of some cases of influenza, and with which the profession latterly is too apt to confuse it. So, if the foregoing observation aids towards differentiating a simple from a specific type of disease, a point has been gained.

ROBT. E. McKECHNIE.

Wellington, B.C., February 17, 1892.

Reviews and Notices of Books.

A System of Practical Therapeutics. Edited by HOBART AMARY HARE, M.D., Professor of Thereapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; assisted by WALTER CHRYSTIE, M.D. Vol. I; pp. 1052. Philadelphia: Lea Bros. & Co. 1891.

Recent medical literature in America tends especially in two very different directions—that of “compends” and that of “systems.” Of the former little good can be said; the latter demand careful consideration, not only because they are the product of much thorough and painstaking labour, but also because, among a number of the profession, these co-operative monographs seem destined to take the place of individual works on various medical subjects. The present series, consisting of three volumes of over one thousand pages each and embracing the entire range of practical therapeutics, will naturally appeal very strongly to the wants of the general practitioner, and indeed neither talent nor space has been spared to make it a complete presentation of the subject in all its details. However one may personally dislike acquiring knowledge through encyclopædic channels and deplore the absence of individuality which such forms of writing entail, one must acknowledge the value of such works which provide complete and authoritative information to which the physician may refer when in doubt, with the saving in both time and money—two factors which apparently cannot nowadays be neglected. It is in keeping with the eternal fitness of things that the introductory chapter on “General Therapeutic Considerations” should come from the pen of Horatio C. Wood. In this article the methods upon

which therapeutics are or should be based are philosophically considered, and are followed by sections on dosage, the physical state of the patient and the combining of remedies.

J. P. Remington contributes an extensive article on Prescription-Writing, illustrated by many examples of good and bad formulæ. In Electro-Therapeutics, A. D. Rockwell treats of the dosage of electricity, the methods of its application for diagnostic and therapeutical purposes, with special sections on its use in neurological, gynæcological and obstetrical practice. A short article on "The Rest-Cure for Neurasthenia and Hysteria," by J. R. Mitchell, summarizes the opinions and experience of S. Weir Mitchell, the earliest and still the best known exponent of this method. "Swedish Movements and Massage" and "General Exercise" find competent and enthusiastic advocates in Benj. Lee and E. M. Hartwell, respectively. The former article contains some histological diagrams, the bearing of which on the text is not obvious; the following cuts of the various movements are, however, very good and accompanied by full descriptions in the text. The tone of both these articles is in places slightly aggressive, this being apparently due to the apathetic or even hostile attitude of many members of the profession towards these therapeutic procedures. S. E. Solly discusses the physics of "climate," the effect of heat, cold and moisture on the organism, and the climatic treatment of disease. Concerning tuberculosis the author, while admitting that purity of the air is a most important factor, is driven to the conclusion "that of all factors, climatic or otherwise, in the treatment as well as in the prevention of phthisis, altitude is by far the most powerful of them all." The rationale and the application of the different methods of hydrotherapy are thoroughly considered by Simon Baruch. The value of hydrotherapy in acute febrile diseases, particularly in typhoid fever, is deservedly insisted upon once more, and we hope this article will be widely read in America. H. B. Baker contributes a section on General Sanitation which one is tempted to wish had been allowed more space. It is a strong plea for the establishment of competent health boards such as exist in the State of Michigan. "Disin-

fection," by Sternberg, contains the most valuable additions to our knowledge of this subject, and is supplemented by an ample bibliography reference list. In "Antisepsis and Asepsis," J. William White, after general preliminary considerations, details the technique he has adopted, which is based on Lister's recent work (cyanide of mercury dressings), and concludes with a *résumé* of the methods of the most noted European surgeons. He might with advantage have mentioned the methods adopted in one other great American hospital. The general practitioner will find great comfort in the section on "nutrition and foods," by Burney Yeo, which is an admirable summary of that author's previous work on the same subject. "Tuberculosis," by Solomon Solis-Cohen, is a most elaborate monograph in which no aspect or factor has been neglected. Great stress is laid upon "hypotrophy" as a most important condition underlying the development of tuberculosis. In this connection the writer's reactionary views may best be judged from the following statement:—"I hold, then, that hypotrophy, congenital or acquired, is the starting point of the various morbid processes now, for want of better knowledge, indiscriminately called tuberculous; and that the bacillus of Koch, while it is perhaps the most important of several microbes that influence the progress of the lesions and various forms of the disease, does not of itself originate the disease in any form. It is further taken for granted in these pages that tuberculosis is not one disease, but a group of diseases; the group being composed of a number of forms more or less intimately related, and including, moreover, the *pseudo-tubercle* produced by Lebert, Fox, Sanderson, Formad and others in their experiments with indifferent substances upon certain animals known to be especially liable to tuberculosis, and that may therefore be termed in comparison to others, 'normally hypotrophic.'" It is truly depressing to read this. Every one knows that the work of the first three experimenters named was open to grave criticism, and that Cohnheim, who was at first led to similar conclusions, in a subsequent very careful series of experiments confirmed in every respect the results obtained by Koch. We were also under the impression that

the conclusions of Formad had received their quietus at the hands of the most able American pathologist. The innumerable pages on treatment, with the exception of local and symptomatic treatment, may, after all has been said and done, still be summarized in the old way—time, plenty of pure air at all times in a suitable climate, nutritious food, appropriate exercise, good personal hygiene, plus creasote, or cod liver oil, or some other remedy which seems to meet some special indication. One turns with pleasure from this exhaustive and exhausting article to the short and practical sections on “Rheumatism, Rheumatoid Arthritis and Gout,” by James Stewart, which contain all that is definitely known about the treatment of these affections, without any therapeutic chaff. The remaining sections are devoted to “Scrofulosis and Rachitis,” by Walter Chrystie, “Scurvy,” by J. B. Hamilton, and “Diabetes Mellitus,” by F. A. Packard. In the last article the dietetic management receives thorough and careful consideration. H. A. L.

Botany: A Concise Manual for Students of Medicine and Science. By ALEX. JOHNSTONE, F.G.S., Lecturer on Botany, School of Medicine, Edinburgh. With 164 illustrations. New York: D. Appleton & Co. 1891. Montreal: Wm. Foster Brown & Co.

The book before us is a compilation from standard works, and bears the very misleading title of manual. Had it been called a Syllabus of Lectures, it would be properly designated, and as such might serve a useful purpose. The object of the book appears to be to cultivate the art of cramming for examinations without imparting any substantial knowledge to the student. It will, in consequence, be likely to find but little favour with advanced teachers. A text-book in connection with lectures best serves its purpose when it is used as a book of reference, comparison and verification, not as a mere dictionary or as an indication; it should therefore give a fairly full treatment of the various subjects it discusses. The book is commendable in comparison with many of the text-books now in the hands of students, in employing a nomenclature which is in accord with our present knowledge.

The Comparative Anatomy of the Domesticated Animals. By A. CHAUVREAU, M.D., LL.D. Second English edition, translated and edited by GEORGE FLEMING, C.B., LL.D., F.R.C.V.S. New York: D. Appleton & Co. Montreal: Wm. Foster Brown & Co. 1891.

This extensive work has been popular with veterinary students for many years, and in its time has served a good purpose. Some seventeen years ago it was first translated into English. An edition appeared in 1889, and this present edition is a translation of the fourth French edition, with considerable amendments and alterations to suit its purpose as a text-book for English students.

The anatomy of the ass, mule and rabbit has been added, and also the camel, an animal which is now much used by the British army in various parts of the world. Many new illustrations have been inserted, which, with the already large number existing in old editions, makes the work very complete. The English editor has much improved the value of the book by placing at the end a copious index, which was lacking in the French edition.

It is hardly necessary to criticise a work which has deservedly passed through several editions in various languages. At the time it was written no doubt its plan was suitable to the state of the then existing knowledge of anatomy, but now it is rather out of date both as to its morphology and arrangement. It is too fragmentary and too evidently founded on the anatomy of that very specialized animal—*man*. The plan of the work is clumsy and confusing, and too much is attempted. The anatomy of the horse is first given, very fully, then in small print the anatomy of the same part in ruminants, in the pig, perhaps in the dog, cat, and occasionally the rabbit or birds; but these latter are given very irregularly. Then the chapter winds up with a comparison of this part of anatomy (say heart, lungs, kidneys, arteries, etc.) in man with that of animals.

As we remarked above, the anatomy of the horse is very good and well illustrated, though the morphology is in many parts not up to date; but the anatomy of the other animals is so fragmentary as to be often confusing, and any one who wished to

study the anatomy of the ox, cat, dog or rabbit from this work would find the task a difficult, if not an impossible one. He would find many interesting comparative points referred to both in relation to the horse and man, but he could get no connected idea of the anatomy of the animals other than the horse. It seems to us that a proper work on Comparative Anatomy of the Domestic Animals has yet to be written, and we should prefer to have the descriptive anatomy of each animal or class of animals quite separate and distinct, with a common introduction on histological anatomy. However, even the minds of the students of comparative medicine are finite, and too much must not be expected from them; no doubt the method adopted in this work will teach the majority as much as they will be able to digest and remember. The work is well printed and illustrated, and the translator seems to have done his work excellently well.

Syphilis in Ancient and Prehistoric Times. By DR. F. BURET (Paris). Translated from the French, with notes, by A. H. OHMANN-DUMESNIL, M.D. Vol. I. Philadelphia, F. A. Davis.

This work is a compilation of all that is known of the history of syphilis, real and mythical. The author attributes many of the plagues which attacked our ancestors to the ever-present flesh-devouring syphilis. The great plagues which visited Pharoah and his house were, according to Dr. Buret, produced by syphilis, contracted by Pharoah from Sarah, and distributed to the rest of the harem. This was veritably "spoiling the Egyptians." He looks upon the disease Job suffered from as probably scurvy, but says David describes excellently well the tertiary symptoms of syphilis. Our author exonerates America from the imputation that she is the source of the introduction of syphilis into Europe. He considers syphilis to be as old as the world, for the Chinese have medical treatises on this disease dating back some five thousand years. He says "syphilis, the daughter of Prostitution, was born as soon as Commerce, chasing Love, presided over the exchange of caresses," and thinks the venereal virus must have marked "the first step of the human race in the highway of

civilization." The worship of Priapus and the games of Flora are described, as well as the licentious practices of the Romans in the latter days of the Empire. The last chapter ends with the general treatment of the disease. The book, though of not much scientific value, contains a large amount of information on syphilis and allied subjects. It no doubt will be popular with the laity.

Surgical Anatomy for Students, By A. MARMADUKE SHIELD, M.B., F.R.C.S. New York : D. Appleton & Co. Montreal : Wm. Foster Brown & Co. 1891.

This little work is the substance of a series of demonstrations on the living subject delivered by Mr. Shield to students in course of preparation for final examinations. It treats of the usual topics which are familiar to us now as *applied surgical anatomy*, consisting of landmarks, parts divided in operations, course of blood-vessels and nerves, relations of organs, etc. Each region is taken up separately. The style is terse, there being no excess of verbiage. It is rather dry reading, however, and is too obviously intended for students wishing to get tips for examinations. As far as we have read, it is accurate, and no doubt will be of much service to those for whom it is intended, if they use it in connection with the living model. The absence of all illustrations seems to us a blemish, for even with a living model the deeper parts cannot be seen without vivisection, which, unfortunately is prohibited in the human subject. Illustrations, even of a diagrammatic character, would, in our opinion, add much to the value of the work.

Outlines of Practical Physiological Chemistry.
By F. CHARLES LARKIN, I.R.C.S., and RANDLE LEIGH,
M.B., B.Sc. London : H. K. Lewis.

Embodies all the facts necessary in such investigations to the student or practitioner for diagnostic and therapeutic purposes, though it aims chiefly at being a guide to students working through a course of this kind. As usual the book is the outcome of that laudable desire prevalent among students for succinct teaching which is always observed by authors anxious to

give a new setting to old facts. This little work contains in short compass, fewer than a hundred pages, everything likely to be of use to the average student and brings into prominence those parts of the subject which the experience of actual practice seems to recognize as essential for the examination of the various physiological and pathological substances met with in the daily word. The book is orderly and thorough explicit but not scant and not overloaded with material of doubtful utility.

Microscopical Diagnosis of Tuberculosis. By PAUL PAQUIN. (Little Blue Book Co., Battle Creek, Mich.)

Must appeal to a wide constituency, for its author assumes that the majority of practitioners are in elementary ignorance of all that pertains to scientific medicine. Amongst these the little book will have a wide usefulness. From the minute description of the microscope, this instrument may be recognised even by an eye not accustomed to scientific niceties and the routine of staining is so clearly set forth that not even "the busy man or student" would be likely to err. The essence of the matter appears to be the advantage of using the author's stains, fuchsin dissolved in alcohol, liquor ammonia, and aniline green in alcohol and nitric acid, but his presentment of the case will hardly induce cautious people to abandon Robert Koch's original stain or Gille's double process with Rosaniline hydrochlorate and methylene blue.

The Chinese: Medical, Political and Social. By DR. ROBERT CATTAN. Philadelphia: F. A. Davis.

China is a refuge of lies for those who dwell therein and for those who visit the strange country. The author admits that "China is a country that has never been penetrated all over the surface." The author seems to be prejudiced and to affect an attitude of war against the non-medicinal country. This book is more than that the volume is a medical missionary, but Dr. Cattan is not too well acquainted with what he has actually seen, and is consequently not too well posted in his theory what he thinks is good for a class of the people he knows. The non-medical part of the book is a collection of what an traveller may see in China.

most of which is commonplace enough, but when Dr. Coltman begins to describe the diseases prevalent in China, the literature of these diseases and their treatment, he does it with truthfulness and candour, arising from an experience of 35,000 cases in a practice of six years. He speaks of the Chinese with respect, not as if they were degraded heathen "ripe for the missionary sickle," and he doubts "if they are in any respect more immoral than Americans or English." This is a marked advance in missionary literature, and he discovers another family resemblance in saying "there are a few of the Chinese who do not smoke, who do not drink nor use opium, and according to their own statement do nothing bad." Then he adds sententiously, "these are not safe to have around." The whole work is a plain record of what a man saw and what he thought, and all is related without bias or any ulterior motive than to tell a truthful tale. His appreciation of the methods and work of missionaries is accurate, and he also points out where amendment is necessary. He recognizes that "the church of the future in China will not be of Anglo-Saxon mould; it will be of Chinese mould, and of the form which best suits the Oriental mind." His discussion of leprosy is particularly valuable, and no one should be permitted to speak upon this subject who has not had a lengthy experience in China.

History of Circumcision from the Earliest Times to the Present. By P. C. REMANDINO, M.D. Philadelphia: F. A. Davis.

The necessity for this book, looking at it from a medical standpoint, does not exist. We fear it does not fill the void in the shelves of even the long-suffering and needy general practitioner. Apparently it is written for the public, and will have a large sale owing to the many racy stories of somewhat doubtful taste which are scattered through its pages. We do not admire the author's style, it is anything but suited to a scientific treatise (which this is not). We give the following as a sample: "After the operation" (circumcision) "*all of his troubles disappeared, and he was soon a hearty and well man, able to chop wood, attend to business, and, in case of need, do duty for a Turkish harem,*

without recurrence of his old tormenting dyspeptic, palpitation, or sick headache" (p. 272). There is also a good deal of fine writing throughout the work. Certainly the author has managed to collect a wonderful lot of curious, if not very valuable, information on circumcision and kindred topics from the prehistoric days to the present time. Of course the author believes circumcision the panacea for all the ills flesh is heir to, and even goes so far as to attribute the introduction of tuberculosis into the Oceanic Islands to the uncircumcised sailors of Capt. Cook, who carried with them from England tubercle bacilli concealed under their long foreskins and from thence discharged into the innocent vaginæ of the Oceanic virgins.

To anyone who is fond of curious information on sexual subjects, the book will prove interesting.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, February 5th, 1892.

JAMES STEWART, M.D., VICE-PRESIDENT, IN THE CHAIR.

Thrombotic Softening of the Pons Varolii.—DR. LAFLEUR exhibited a specimen of this condition. There was nothing abnormal found in the dura. At the base of the brain there was extensive sclerosis of all the vessels, the left posterior cerebral artery being plugged. In passing below the level of the corpora quadrigemina, the substance of the pons varolii is seen to be softened; the softening affects the left half, leaving only a rim of sound tissue, the line of demarcation being very sharp at the median raphé. Posteriorly the softening does not extend further than the lower third of the pons. The softening affects the fibres going from the cord and not the superficial transverse fibres from the cerebellum. The grey matter in the floor of the fourth ventricle is not affected. No other lesion was found in the brain, and the cord, as far as examined (a little way below the medulla), was healthy.

Echinococcus Cyst of the Liver.—DR. LAFLEUR found in the same patient an echinococcus cyst. It was situated in the upper

part of the right lobe of the liver, just three-quarters of an inch below the diaphragmatic attachment. It was found to be a firm non-infiltrating tumour with walls 1-12th of an inch in thickness, inside of which is a soft lining membrane, and from which spring a number of septa dividing the interior into alveoli, containing cheesy matter and distinct gritty particles of lime salts. At first the exact nature of the tumour was doubtful; whether it was a calcified solitary tubercle, a residual abscess or an echinococcus cyst that had undergone retrograde change. The microscope proved the absence of the tubercle bacilli and, after a careful examination, the presence of the hooklets.

The patient from whom these specimens were taken was brought into the hospital suffering from a right-sided motor and sensory paralysis. No history could be obtained from him as his speech was a mixture of bad French and bad German. He was not a native of Canada.

Suppurative Appendicitis.—DR. LAFLEUR exhibited the specimen and gave the account of the autopsy. The abdomen was distended, and on opening it a condition of acute purulent peritonitis was found; 100 c.c. of pus were removed. The coils of intestines were matted together with recent lymph. In the right iliac fossa there was dense matting of the intestines about the head of the cæcum; on dissection a cavity was found full of thin grumous pus containing a number of greyish particles. This was removed with part of the iliac and psoas muscles to show its relationship. The abscess was purely circumscribed, and there was no rupture, the cause of the acute peritonitis being the conveying of the poison through the lymphatics. The abscess was not of long standing, as shown by the moderate thickness of the walls. There was a commencing septic pleurisy on the right side.

DR. JAS. BELL stated that the patient had been under his care for a few hours in the General Hospital. The illness had been a matter of ten days, and she had been attended by Dr. Finley for typical perityphlitis, and it was not until a week after the onset that he was able to detect a fluctuating mass in the right iliac fossa. He then advised her removal to the hospital for operation. At one o'clock on the day she entered the hospital

have rather shaken public confidence. He felt that there is not sufficient clinical instruction for young men. They should learn to recognize this disease early; the early recognition is in proportion to the acuteness of the disease. We recognize and treat acute pneumonia at once, so every one should be able to recognize acute insanity at the outset, that the patients may not be permitted to live in surroundings which do anything but tend to ameliorate their condition.

DR. LACHAPPELLE thought that the medical profession has taken too small an interest in mental diseases and in their clinical study. Mental diseases are frequent, and every practitioner is expected to meet many cases in his practice. If such cases were properly diagnosed and treated at first, no doubt many would be cured. We have to blame ourselves in Montreal that we have not been better equipped, and he was glad that the subject had been brought up, for we see that the officers at the head of the asylum are up to modern progress, and we ought to get the students to benefit by bringing them in contact with the patients.

DR. A. D. BLACKADER also felt the need of clinical instruction for students. Looking back on passed years he could recall cases that presented at first only slight departures from health, and felt what an advantage it would have been if he could have recognized these departures earlier. Many of the cases of mental disease which we meet with, if properly recognized, may never need to be sent to an asylum.

DR. SHEPHERD stated that regular clinical instruction had been given once a week at Verdun during the last summer session, and that it would be continued this year.

DR. PROCTOR was glad to hear that the hospital at Verdun had been utilized. In many of the colleges of the United States, though they have many disadvantages as compared with ours, regular lectures and clinical instruction on insanity were given, and he hoped to soon see this subject a part of the regular course.

DR. JAS. STEWART thought that the influence of the report would be for great good. The weak point, however, is that the report insists that the superintendent should have the entire control of the administration of asylums. If a man has to be hampered with details of administration, he cannot do justice to the

medical treatment of his patients. In the United States and Ontario the appointment of the superintendent is almost always political, but it is not so in Quebec. In the United States, where politics reign supreme, the superintendents rank far below those of England, France and Germany. In the latter countries there are men who examine the patients from a scientific point of view, and have nothing whatever to do with the administration.

DR. DUQUET, in reply, said that he could not agree with Dr. Stewart. He thought that the superintendent should have complete medical control of his patients. If a physician is named to give medical treatment, the superintendent will look upon him, at first, as an equal and then as an inferior, and then there will be quarrels, as frequently occur in the asylums in France. The superintendent need not look into the details of treatment, for the report says that he may have competent assistants. So he thought that with a good steward and with the necessary trained assistants, it was much better for the superintendent to have supreme control. As for treatment there is no specific for insanity, but every circumstance that has any influence on the minds of the patients must be carefully considered. Drugs have but little influence; the chemical constraint does not do any good, and may conduct the patient into hopeless insanity. Unfortunately, physicians prescribe the bromides for everything, which in many cases do far more harm than good. Clinical teaching has been neglected too much both in this country and elsewhere. He is often surprised and amused to see the statements on the certificates. The subject of insanity should be taught in every school; there should be lectures and clinics during at least three months. When Dr. Tuke visited Longue Pointe he saw the old asylum with its numerous cells and many other defects, so to a man like Dr. Tuke the impression was very poor, and his report was only too true; but since that time the old building has been destroyed by fire and the new buildings are very much better. He (Dr. Duquet) had protested against the use of cells, and they were now seldom used during the day, and altogether there is not now one-fifth the amount of restraint that was formerly used. He had always been opposed to the farming system, as it is hard work to improve it. The State gives \$100 per

annum for each patient, which is very little, but the community will always try to make a little money out of this sum. The State should have the asylum under its own control. As to changing the name to hospital, he did not approve of it. In large buildings with large wards it is impossible to classify the patients, and such a building is not an hospital but an asylum. He strongly favoured separating the curable from the incurable; the former class should be treated in hospitals and the latter in asylums; each patient should be treated individually, and until we get such a division we will not cure as many cases as may be cured, for if not treated in the beginning the patient passes into the chronic state, when the greater number will be incurable.

Stated Meeting, February 19th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Plasmodium Malariae.—DR. FINLEY showed under the microscope two red blood cells containing the plasmodium. They had been obtained from a man who had contracted malaria in Cuba, and who is at present in the General Hospital. The plasmodium is seen to be a small amœboid body within the red blood corpuscle and containing grains of pigment due to the breaking up of the hæmoglobin. The specimen had been stained with methyl-blue. In addition to the intra-corpuscular bodies, there are also found certain hyaline and small pigmented bodies lying between the corpuscles. The method of examination is to spread out the fresh blood in a very thin layer and examine it with an immersion lens; staining is not necessary. The presence of this organism is sufficient to establish a diagnosis of malaria. Quinine seems to destroy it, for it cannot be found after the exhibition of the drug.

DR. LAFLEUR said that the specimens deserved much more than a passing notice, for this is the first time that the plasmodium has been demonstrated in Montreal and probably, with one exception, in Canada: for last year, while one of the attendants of Johns Hopkins Hospital was visiting Halifax, he succeeded in demonstrating this characteristic organism to the hospital physi-

cians. During the chill typical segmentation takes place, the plasmodium divides into from ten to twelve small spherical bodies, the pigment collecting in a separate mass at the centre. The bodies form the new brood of plasmodia, which subsequently enter other red corpuscles and grow into the large pigmented forms. In southern climates, where both typhoid fever and malaria frequently occur, a form of fever which presented the characters of both used to be called typho-malaria, but this term is not now recognized; the disease must be either typhoid fever or malaria, and a positive diagnosis can be made by observing the presence or absence of these bodies in the blood.

DR. REED said that there was no malaria in the Province of Quebec, though Dr. Bell, two or three years ago, read the report of three cases which were supposed to have originated in the Province.

The PRESIDENT asked what proportion of blood cells may be expected to contain plasmodia, and if there is any relation between the number of the affected cells and the severity of the disease.

DR. SMITH asked if quinine entirely destroyed these bodies, and if a person would have to be again exposed to the malarial poison to have a second attack.

DR. FINLEY, in answer, said that the bodies were found more frequently in quotidian than in the tertian forms. Several specimens, as a rule, have to be examined, for the number of cells in the field of an immersion lens is very small. Malaria may be cured temporarily by quinine, but symptoms will occur from time to time.

DR. LAFLEUR said that there was a direct relation between the gravity of the attack and the number of corpuscles affected. In pernicious malaria every second or third corpuscle may be involved. The probable reason for a second attack occurring after the use of quinine is that some of the organism are more resistant than the rest and may retire to the spleen, or they may be in a spore state, and under favourable circumstances will produce a new brood.

Cancer of the Liver.—DR. MCCONNELL exhibited the specimen for Dr. Armstrong, and Dr. Smith gave a short history of

the case. The patient came to the Western Hospital during the summer suffering from extensive cancer of the breast with involvement of the axillary glands and extensive sloughing of the skin about the nipple. The case was hopeless, but he thought that an operation was justifiable, in that it removed the sloughing, stinking mass, and that death would be rendered less painful by the involvement of some internal organ. At the operation, after he had removed the breast, he found the pectoralis major greatly infiltrated with the disease, but as the patient was in a very weak condition he did not remove the muscle or the glands, but they were removed later on by Dr. Armstrong. He was of the opinion that the liver was involved at the time of the first operation. The specimen had numerous nodules of cancer scattered throughout the organ. The sections under the microscope showed well marked alveolar cancer, the round, oval and some flattened cells lying loosely in the alveoli.

Cancer of the Breast.—DR. LAPHORN SMITH read the following report :—

Mrs. S., aged 31, consulted me at the Montreal Dispensary in June, 1891, for procidentia of the uterus, which protruded from the vulva about three inches. She had a bad laceration of the cervix, and as all the ordinary measures for retaining the organ within the body proved unsuccessful, I urged her to have the uterus extirpated, an operation which would have been very easy by the vagina, as I could feel the upper margin of the broad ligaments without exerting any traction on the organ. Dr. Perrigo kindly placed a bed in the Western Hospital at my disposal, as it was his term of service, but he advised me to try the effects of an amputation of the cervix before deciding upon the major operation, which I might do later if necessary. I followed his advice, and on the 15th September I performed Schröder's operation. She made a rapid recovery, and the result was fairly satisfactory, the womb no longer coming out of the body, and only when she is very tired does it prolapse at all. Before leaving the hospital she called my attention to a hard nodule in the centre of the breast which she had first noticed last March, at which time it was only the size of a marble; in June it had grown to the size of a hen's egg, and in September it was as big as a

small orange, and there was slight enlargement of one of the axillary glands. As there was no retraction of the nipple, and as she was so young, I hardly believed that it could be a malignant growth. As her bed was needed, I dismissed her until January, when I was to come on for duty.

Family history.—Father died at the age of 70 from causes unknown. Mother still living at the age of 70. She has had ten brothers and sisters, of whom one brother died in infancy and one at the age of 23 of typhoid fever; one sister died of acute rheumatism, and another at the age of 18 suddenly of disease of the brain.

Patient began to menstruate at the age of 13, and was always regular, though scanty, painless, and lasting two days. Married seven years; one child five years ago; no miscarriages.

On the 23rd January, assisted by Drs. England and Springle, I removed the breast, and in order to avoid recurrence I kept an inch at least outside of the apparent area of the disease. Finding that the disease had apparently spread to the pectoralis major I removed that entire muscle, and then proceeded to clean out the axilla both of its glands and fat. One of the glands was as large as an almond and the others the size of beans. The axillary artery and vein were left bare, but were not injured. The patient was exceedingly weak and anæmic before the operation, and the necessary loss of blood, which, however, was not excessive, caused her pulse to become very attenuated, so that the operation had to be completed with her head inverted and her feet in the air, and several hypodermics of ether were also given. An opening was made in the lowest point of the back of the axilla and a drainage tube inserted and fastened with a safety-pin. The skin surfaces could not be drawn closer together than two inches, the sutures being of silkworm gut; gutta percha tissue was placed over the raw surface. It was dressed on the third, eighth and tenth day, after which the discharge diminished very much. The highest temperature recorded was $99\frac{1}{2}^{\circ}\text{F}$. on the evening of the third day after the operation. The stitches and drainage tube were removed on the 18th day, and on the 29th day it has almost healed.

I would like to take myself to task for not having made greater

efforts to induce this poor woman to submit to operation when I first saw the tumour. Winkel, *Diseases of Women*, Parvin's second edition, Philadelphia, page 657: "If a tumor of the breast has a uniformly continuous growth, it must be extirpated no matter whether benign or malignant. When the tumour is malignant the sound tissues should be excised at least an inch beyond its margin. When the skin is not movable over the tumour, but adherent, or is already diseased, it must be excised far beyond the limits of the involved tissue. When the pectoral muscle is involved, the diseased tissue must be removed, and it may even be necessary to exsect a rib. Indurations found in any portions of the adipose tissue or at the base of the wound must be carefully removed with the scissors." This is sound advice, and was followed with, so far, satisfactory results.

As Gerster (*Aseptic and Antiseptic Surgery*, New York, 1888, page 109) points out that this operation in preantiseptic times was as fatal as the major amputation of a limb, while now the risk is almost *nil*. But the death rate from recurrence of the disease has not fallen, because we wait too long before resorting to operative treatment. In the case whose liver has just been exhibited, there was a large sloughing and stinking mass in the breast and the pectoral muscle was completely invaded. No operation could have been of any ultimate avail. In view of the fact that over 90 per cent. of all mammary tumours are carcinomatous, the benefit of the doubt should be given to operating. There were three points of interest in this case, two of which rendered me less vigilant than I would otherwise have been—namely, the absence of the slightest retraction of the nipple and the age of the patient. The third was the presence on the arms of three black eschars, two on one arm and one on the other, resembling burns. On telling the nurse that they were probably burns from contact with too hot bottles, she maintained that they were, on the contrary, due to hypodermics of ether which were given when the patient's pulse began to fail; and such, it seems, is really the case.

DR. MCCONNELL exhibited sections which presented all the characters of schirrus cancer.

Intussusception.—DR. GEO. A. BROWN exhibited a specimen of this condition and gave the following history: The patient, a boy of $2\frac{1}{2}$ years old, had been troubled more or less with his stomach and bowels. Ten days (Dec. 15th) before death the boy had been treated for a sore throat, which when first seen looked like diphtheria, but the next day it had cleared up and he remained pretty well until Friday, Dec. 24th. On Friday evening he was seized with incessant vomiting and desire to go to stool, which lasted up to the time of death; he passed small quantities of faecal matter, but no blood. On Saturday evening Dr. Brown was called in just before the patient died. He found the child suffering from all the symptoms of shock; the abdomen was retracted, very tender, and gave a dull note on percussion: A little above the umbilicus there was a small irregularity on the surface of the abdomen which was exceedingly painful on palpation. At the autopsy, on opening the abdomen, there was complete collapse of the large and small intestines; in the upper part of the jejunum there were two invaginations, one about two feet and the other about three feet from the duodenum. Around the lower one there was a localized peritonitis. The stomach and bowels were empty.

Diagnosis of Aneurism of the Descending Thoracic Aorta.—DR. J. ELSDALE MOLSON read a paper on this subject. (See page 649.)

Discussion.—DR. LAFLEUR said that an ingenious method of diagnosing these aneurisms had been suggested by Ferdinand Schnell in a recent number of the *Münchener Medicinische Wochenschrift*. A long stomach-tube, closed at its lower end and with a glass-tube attached to its upper end, is filled with a coloured liquid. The tube is introduced into the oesophagus, and if an aneurism is present it will act as a manometre, the pulsations being transmitted to the fluid in the tube.

DR. GEORGE ROSS said that the collection of cases was of very great interest, for the subject is surrounded by many difficulties, but he did not think that Dr. Molson's conclusions throw great light upon the subject. One point was not brought out very prominently, and that was the possibility of an aneurism pro-

ducing irritation in the parts in direct contact with it, as in the pleura, and so light up a left-sided pleurisy. In his (Dr. Ross) experience this occurred in most of the cases. If we meet with a case of acute inflammation of the left pleura, accompanied or followed by severe pain of an anomalous character and not like the pain of pleurisy, especially if it continues after a small quantity of fluid has been poured out, and if this occurs in a man over 40, and with a trace of syphilis, we have a collection of facts which point to some irritation, and are very significant of aneurism. He did not see that the cough is diagnostic, because it may arise from so many other causes, nor did he think that it could have any special characters, the brassy cough being associated with dilatation of other parts of the aorta. He looked upon the method of diagnosis spoken of by Dr. Lafleur as very ingenious, for by it we would get a demonstration of localized pulsation just as we do by tracheal tugging when the aneurism occurs higher up.

DR. SHEPHERD cited two cases, one which was under the care of Dr. Ross and the other under the care of the late Dr. MacDonnell, who had shown photographs of the case before the Society last year. He thought that one would have to use Schnell's method of diagnosis very frequently, for he thought that the pulsations of the normal aorta might be indicated, and it would be necessary to distinguish these from the pulsations of an aneurism. He asked Dr. Molson if there was interference with deglutition in any of the cases.

DR. LAFLEUR stated that while washing out the stomach with the stomach-tube he had never perceived any pulsations communicated to the water in the tube.

The PRESIDENT said that as bone is a good conductor of sound, and as we find these tumours, which in many instances must produce an audible sound, lying in direct contact with a bony surface, he did not see how auscultation might not be of some assistance in making a diagnosis.

DR. GEORGE ROSS said that very little is to be learned by the method spoken of by Dr. Buller, for there is not always a murmur in aneurism, it is rather the exception than otherwise. The case spoken of by Dr. Shepherd was a man who was suffering

from valvular disease of the heart, and the condition of aneurism was unsuspected. He (Dr. Ross), however, became convinced that the symptoms were not the result of aortic regurgitation. The pain was excruciating and agonizing in character, and from this fact he felt that there was some trouble in the aorta, and treated him with potass. iodid. and rest with great benefit. The man ultimately died from rupture of the aneurism. In this case he never found any evidence of localized pleurisy, but in all his other cases it was the earliest indication of the disease.

DR. MOLSON, in reply, was pleased to hear that pleurisy was so constant a symptom ; it had not been mentioned in any of the cases. Pain was mentioned, but no note was made of attention being directed to pleurisy. There had been no difficulty in swallowing in the cases ; in one case the man was eating his dinner when the aneurism burst into the œsophagus, but he had never any difficulty in swallowing.

Selections.

THE OBJECTS, PLANS AND NEEDS OF THE LABORATORY OF HYGIENE.*

By JOHN S. BILLINGS, M.D.

From those who have preceded me you have heard of the origin of this laboratory, and something of the wishes, hopes, and expectations of the public with regard to it, as indicated by the donor, and by representatives of the University and the States.

You see clearly that this magnificent gift imposes a heavy responsibility upon those who are charged with the duty of managing it, and of seeing that it is so used as to meet the many and various demands which may rightfully be made upon it ; and, in attempting to explain to you briefly what the laboratory now is, and why it is as it is, I come before you oppressed with a keen sense of this responsibility, which is not lessened but rather increased by the fact that I feel that I am speaking to friendly critics.

For this new building, with its equipment and resources, is

*Extracts from an address delivered at the opening of the Laboratory of the University of Pennsylvania, February 22. 1892.

but an implement—a piece of mechanism—which may be used to shape products of vast importance, not only to the world as it is, but to generations not yet conceived; or which, on the other hand, may be so used as to be of little more importance to humanity than the toy tool chest or the doll's house of a child.

What this use shall be depends upon the force and skill applied to it; upon the materials submitted to it; upon the ability of those who guide it to foresee the direction in which at each moment of time it is best to move it; upon the knowledge and patience of those who are working in it; and, when all these are at their best, the results must still depend upon the decrees of Divine Providence, upon circumstances which no man can fully foresee, and which, therefore, no man can, with certainty, control to the end desired.

The position of laboratories in their relations to education, to science, to technology, and to the executive departments of governments and the welfare of the public, has become a very notable one within the last fifty years. A laboratory—or, as it was called in old times, an “elaboratory”—is, as its name indicates, a place for labor, for work—and especially for skilled labor, in the making of delicate and difficult observations and experiments; for analysis, to determine composition and causes; for synthesis, to determine the results of new combinations; for solving old problems, and for stating new ones. It is not a museum, or a store-room, or a show place, nor does this kind of a laboratory offer much for sale, except opportunity.

Only an opportunity—just a few possibilities, offered to the man who desires knowledge, who wants to see, and touch, and try for himself. Yet this offer of such an opportunity is what distinguishes it from those institutions established for the benefit of individuals.

The ideal laboratory of the alchemist or philosopher of by-gone days was a mysterious, dusky place, the operations in which were kept a profound secret, and which thus gained in repute what they could not have obtained by publicity and free criticism.

Laboratories planned and fitted for public use, offering to any one who is able and willing to pay a moderate fee, and to submit to a few simple regulations, not only opportunities for

learning the details of the processes carried on therein, but also facilities and means for making special research as he could only obtain otherwise at great expense and loss of time; such laboratories, I say, are all of comparatively recent date.

It is not yet twenty years since the first separate institution of this kind was established for hygiene—and even now there are not more than a dozen such laboratories, specially built and fitted for their purpose, in existence throughout the world. Of these, the best known is probably that of the University of Munich, under the direction of Professor Pettenkofer, while the largest is that of Berlin.

This laboratory is the first structure of its kind erected in the United States, and it therefore opens a comparatively new field of work in this country. What is the nature of this field, and what are its boundaries? The object of hygiene is to preserve and to improve health, and there are few matters affecting the physical, intellectual, emotional, and moral condition of man as an individual, or of men in communities, that may not come within the scope of its investigations. The destruction or avoidance of causes of disease is but a part of its objects—it is at least equally concerned with the means of making a man better fitted to resist these causes. "That kind of health," says Montesquieu, "which can be preserved only by a careful and constant regulation of diet is but a tedious disease." Disease, like health, is a vague term, including widely different and often very complex conditions, processes, and results, which must be observed, classified and described in such a way that different men, widely separated in space and time, may know that they are seeing the same things, and thus may have the benefit of each other's experience.

In its scientific aspects, then—those which relate to definite and precise knowledge—hygiene rests largely on physiology and pathology, the third leg of the tripod being formed by vital statistics; while, in its practical aspects, it must rest on chemistry, physics, and the data of sociology and politics.

The physician deals with sick men, and his first question is, What is the matter with this person? That is, what group of symptoms does he present, and to what derangement of his mechanism are these due? The hygienist deals with two sets of problems—the first relating to men who are not sick, and how their health and vital resistance—power are to be not only

preserved but improved and strengthened; the second relating to sick houses, feverish blocks or wards, infected localities—where the first questions to be solved are, What are the causes of this condition of things? how have they found entrance? are they still acting?

In the investigation of causes he must consider not only the immediate or exciting, but also the remote or predisposing; not only those which are preventable, but those which, with our present knowledge, are unpreventable; and thus it is that heredity, race, local meteorology, occupation, and many other circumstances must be studied by him, as well as the effects of food, clothing, habitation, poison and viruses.

The recent advances in our knowledge as to the action of certain micro-organisms in the production of disease in animals and man have been largely made by laboratory methods, and indicate clearly that the study of bacteria and microzoa, and of their development, products, and effects, must be an essential part of the work of an hygienic laboratory, which should provide the peculiar arrangements and apparatus which are required for this sort of work. In fact, several so-called hygienic laboratories are simply bacteriologic laboratories, the interest in this particular branch of investigation having, for the time being, overshadowed all others.

Our laboratory, however, must provide also the means for chemic investigations of air, water, food, sewage, secretions, and excretions, and the products of bacterial growth; for testing the effects of gases, alkaloids, and albumoses of various kinds upon the animal organism; for investigations in the domain of physics pertaining to heating, ventilation, house-drainage, clothing, soils, drainage, etc.

Just at present, research is being specially directed to certain minute animal organisms—the microzoa—such as are found in the blood in malaria and in the skin in certain diseases, and to immunity, especially to that immunity which may be artificially produced.

Experimental investigation is a slow process, and very uncertain in its results.

An experiment may be conceived which seems as if it would give important results. The experiment itself would require only a few moments or a few hours if all the apparatus were ready to produce the required conditions, and to record in

terms of weight and measure the results obtained. But to make this apparatus in the best form, and to provide the means of recording, may take a year or more, and in making this preparation a dozen problems will come up to be solved by other experiments. You are pretty sure to discover something new, but by no means sure that it will be what you began to seek. Every discovery opens new questions and indicates new experiments, and the precise shape in which the work presents itself varies with place and season.

We cannot foresee precisely the demands which will be made upon us, or which we shall make upon ourselves, but we do know that we shall want some large rooms in which a dozen or twenty men can be at one time taught how to investigate, working under the eye of an instructor; and also a number of small rooms, each fitted for the work of one or two men who have attained a certain degree of skill, and are engaged in original research. In all of these rooms we shall at times need to use microscopes, gas-heating and steam; there will be vapors and fumes produced; there will be delicate instruments scattered about, and the rooms must, therefore, be light, have abundance of gas, steam, and water, hoods and flues for conveying away fumes, and they must have plenty of fresh air without dust.

Many of the things that will be seen through the microscopes will be rapidly changing form, and we shall need pictures as well as descriptions of their different shapes.

The most useful drawings for our purposes are those made by sunlight, and therefore, we want photo-micrographic rooms.

We shall wish to test the merits of various articles of house-equipment, such as different patterns of steam radiators, of traps, of sinks, and closets, etc., and for this purpose we must have places where they can be fitted and put into use.

We must know what other investigators in other laboratories, have done and discovered, that time and effort may not be wasted. We must, therefore, have the books and journals in which these are recorded, which are already many, and coming rapidly. A small library and reading-room is therefore essential.

Much of the apparatus to be used must be either made or specially fitted and adjusted on the spot to meet special indi-

cations which it is impossible to foresee, and, therefore, we need a large workshop, with tools and appliances for working in wood, glass and metal, and with power.

The chief object of the existence of this building is to fit a certain number of men from all parts of the country to investigate and solve the problems connected with the securing of the best health and vigor among our people.

We hope, also, that some increase of knowledge will be made here by the workers in the laboratory itself; but the main point to be kept in view is to provide well-trained, scientific, and practical men for other fields of labor. Dr. Mitchell has said that the true rate of advance in medicine is not to be tested by the work of single men, but by what the country doctor is. So, also—and even more so—advance in practical sanitation is not to be measured by laboratory records, but by what health officers and sanitary engineers are able to accomplish.

Even now we *know* much more than we *do*, and the skilled sanitarian too often finds himself in the position of the unhappy daughter of Priam and Hecuba, who could foretell, but to no purpose.

This laboratory is fortunate in being closely connected with, and in the immediate vicinity of, a great medical school, and of great hospitals. As was said before, one of the essential foundations of scientific knowledge of the causes of disease is minute and accurate diagnosis and pathology, and we are, therefore, in constant need of the best knowledge of leaders in these branches of medical science. The hospital is filled with specimens of the results of such causes, acting on the human body—from one point of view, Nature's experiments with poisons cunningly elaborated in the tissues of the body, or with viruses coming from without, upon blood and bone, muscle and brain. Much of the work of this new department will be connected with the results of these experiments.

The laboratory is also fortunate in being located in a great manufacturing city, where the effects of different occupations, of trades dangerous or offensive by reason of dusts, or of vapors, or of waste products, can be readily observed and the materials for study obtained. There is an immense field for a sanitary clinic here, and in the habitations, the streets, the water supply, and the sewers of Philadelphia.

These clinics, however, cannot, as a rule, be reported for the press, either lay or medical, since to do so would, to a great extent, defeat their object; the great majority of sick houses and manufactories must be considered as strictly private patients, and their affairs held as confidential. In the case of public institutions, or of public nuisances, a somewhat different rule may apply.

Practical hygiene is to play an important part in municipal government, to secure the best form of which is now one of the most urgent questions of the day. Many of the questions to be decided by city officials as to water supplies, sewage disposal, etc., require expert knowledge to answer.

Of course, the subject of hygiene and the work of a university department devoted to the increase and diffusion of knowledge in sanitary science extends far beyond the experiments and demonstrations for which this laboratory is specially fitted.

Bacteriology, chemistry, pathology, physics, and medical and vital statistics give us the foundation, but sociology and jurisprudence must also be studied in their relations to sanitation to obtain the best results.

It is in and to the home and the workshop that these results are to be applied, and he who aspires to be his brother's keeper, must know how his brother lives.

Labor questions, education questions, maritime and interstate commerce questions, and methods of municipal finance and government, are all intimately connected with matters of personal and public hygiene, and economic consequences, as well as health, must be considered in the advice and regulations of the sanitarian.

I count it as fortunate, therefore, that there is a law school and a school of finance and political economy in this University to which the Department of Hygiene can look for advice and friendly criticism when these are needed, as they surely will be.

And now a very few words as to the needs of the laboratory. First of all it needs men—men thirsting for knowledge, and fitted by previous training and education to come here and acquire that knowledge, not merely the knowledge that exists in books or that the teachers in this laboratory may possess, but that which is yet unknown, the weight of that

which no one has yet put in the balance—the shape and size, and powers for good or evil of things the existence of which has not yet been demonstrated—men who will patiently and earnestly seek the answers to the questions, “what?” “when?” and “how?” in the hope that thus they may by-and-by obtain some light upon the more difficult problems of “whence?” and “whither?” even if they may never be able to answer “why?”

There are not many such young men whose tastes will be in the direction of these lines of research, and of these there will be very few who will have the means to support themselves while engaged in the work. We need, therefore, the means to help them in the shape of half a dozen fellowships, paying about five hundred dollars a year each, and granted only to those who give satisfactory evidence of capacity and zeal.

The second thing we want is a demand on the part of the public for really skilled, well-trained sanitary investigators and officials, such as we hope to send out from here; we want a market for our product; we want the legislators of this and other States, and of our rapidly-growing municipalities, to be educated to appreciate the importance and practical value of such health officials, and to give the best of them employment

Thirdly, the laboratory wants the co-operation and assistance of sanitary authorities and inspectors, and especially those of this city and States.

It needs to know from time to time what they are interested in and are working at, to have the opportunity of showing to its students cases of special interest—sick houses, localized epidemics, special forms of nuisance.

And, on the same principle, and for the same reasons, it desires to have its attention called to special methods of heating, ventilating, and draining buildings, and especially public buildings, such as schools, hospitals, prisons, churches and theatres, and to matters connected with the hygiene of manufacturing establishments and special occupations, methods of disposal of offensive or dangerous waste-products, of protecting workmen against dust, gases, etc.

In short, we want to know how those things are managed by the men who have a practical interest in them; and if, in

our turn, we can suggest improvements, we shall be glad to do so.

Fourth, the laboratory wants a reference library as complete as it can be made, and always up to date. Many of the books and journals required must be purchased, and for this purpose a special fund is needed, but many of the works required can only be obtained by gift.

Thus, we want all the reports of boards of health—State and municipal—of municipal engineers, waterworks and water commissioners, park commissioners, etc.

We want the catalogues and circulars of all manufacturers of heating and ventilating apparatus, of plumbers' supplies and house fixtures, of electric and gas fixtures, of machinery and apparatus connected with water supply and sewage disposal.

We want copies of plans and specifications of large buildings of all kinds.

And these things can only be obtained through the aid and good-will of manufacturers, engineers, architects and sanitarians all over the country; and this aid I venture to ask, feeling sure it will be granted by those who know what is wanted.

I will mention but one more special want to-day, and that is of means for the proper publication of illustrated reports and accounts of the work done in the laboratory.

In the mean time we must be patient, and not too eager to touch the fruit of the blossom that is not yet blown.

In the chambers of this laboratory are to be explored and tested some of the strangest and subtlest of the manifestations of force which surround and are within us.

Here we are to deal with problems of life and death, to seek to unravel some of the webs which bind and choke our children, and which make our strong men helpless, that we may for a time, at least, put the trammels aside or sever them.

I dare not attempt to promise or to prophesy as to the work which will be done here, or as to the future of this new department of the University.

Those who are to be connected with it may not do the best that can be done, but at least they must do the best they can, and, if needful, give place to others who can do better.

Those to whom we owe this laboratory and its equipment

and endowment, have been generous and wise in their generosity, which has been in accord with the teaching of the son of Sirach, "Having grace in the sight of every man living, and detained not for the dead."

Death comes by many paths to one or other of the three porches of the microcosm through which he enters, and brings his poppy flowers to all doors soon or late; but if we knew that which we might know, and did that which we might do, he would be preceded by fewer heralds of suffering, and would arrive only when we were ready to be "hushed in the infinite dusk."

If "ye shall know the truth, the truth shall set you free"—not free from change, or from grief, or from the final passage beyond the veil, but free from causeless fears, from unnecessary pain, from useless labor; and this is a part of that wisdom "which passeth and goeth through all things," and is "the brightness of the everlasting light, the unspotted mirror of the power of God."—*Boston Medical and Surgical Journal*.

The Pathology of Genius.—Huxley defines genius as innate capacity of any kind above the average mental level. Accepting the definition that genius is an inborn tendency to do certain things better than most men, it may be called something abnormal, but to treat it as something pathological is neither new nor true. Nevertheless there will always be people willing to believe that men favoured by Nature with great mental powers have some compensating deficiencies. Genius is perhaps not so uncommon as some assume, but there is a great reluctance to recognise it. There have been men of genius who never gained distinction owing to adverse circumstances. There is always a goodly number of men who step beyond the line in physical and mental endowments, and this superiority is evidently inborn. So far is this from being a proof of any morbid condition, that perfection of function is the highest result of happy heredity and healthy nutrition. Mr. Nisbet, who a short time ago wrote a book on the insanity of genius, does not venture to espouse the statement of Moreau that genius is a neurosis, but he holds that great mental gifts are not obtained as a rule without some disturbance of the brain and nervous system. In favour of this view he quotes, curiously enough, an opinion expressed by Professor Huxley to the effect that a genius among men stands in the same position as a "sport" among animals or plants. He thinks it probable that "a large proportion of 'genius sports' are likely to come to grief physically and socially, and

that the intensity of feeling which is one of the conditions of genius is especially liable to run into the fixed ideas which are at the bottom of so much insanity." Mr. Nisbet is able to enumerate a rather long list of celebrated persons who suffered from diseases more or less remotely connected with the nervous system, but whether in a given number of men of genius more nervous disease would be found in them and in their families than in the same number of ordinary men living under similar circumstances is an inquiry which it would be very difficult to make. Mr. Nisbet makes the most of the fact that toward the close of his life Julius Cæsar had occasional epileptic fits; nevertheless, Julius Cæsar was a man of astonishing strength both bodily and mental, but the strain to which he subjected his constitution from his ceaseless toils and his sensual excesses seemed sufficient to wear out any human organism. On looking over Mr. Nisbet's list of neurotic great men we miss a large number against whom nothing can be said. He claims Alexander the Great as a neuropathic genius, on the ground that he had an affection of the muscles of the neck, which compelled him to hold his head on one side; and that a brother of his was an idiot. This must be Aridæus, son of Philip by a concubine, who is described as of feeble intelligence, but certainly not an idiot. Plutarch merely says that Alexander had a slight droop of the head, and that the weakness of Aridæus was not congenital, but Olympias destroyed his intellect with her drugs. Besides these two, no other of the great generals of antiquity are claimed as neuropaths. Mr. Nisbet seems satisfied if he can assign any defect or disease against a man of genius, or even against his ancestors. For example, he thinks it worth while to tell us that Southey's father was "passionately fond of field sports," and then observes: "Extraordinary physical energy is often found in connection with nerve disorder, the result of an excessive stimulation of the motor centres of the brain." We are told that Cromwell died of ague at 59, a "malady the exciting causes of which are still unknown, but which is obviously of a nervous character." Then Marlborough was subject to headaches and giddiness; and Turenne had a weak constitution in boyhood, stuttered, and was subject to a convulsive movement of the shoulders. We hear nothing of Condé or other great French generals save Napoleon, as to whom we have the story of his being an epileptic. We are told that Wellington was also an epileptic. Certainly Marlborough, Napoleon, and Wellington were all men of very strong constitutions. All writers who have taken up this view about the unhealthy character of genius soon take us away to poets and painters, who are mostly men of extreme sensibility, and often leading strange and unconventional lives. There have been, no doubt, too many sickly poets who have gained

notoriety by gratifying a morbid taste for unwholesome reading, but Tasso seems the only great poet who ever was insane. Mr. Nisbet tells us he was confined for a time on account of homicidal mania. There is, indeed, a story of Tasso's drawing a knife on a man, but we do not know the provocation; and this is the only record of his trying to injure anyone. The character of his insanity was certainly not homicidal mania. To those who are willing to believe that the poet has a touch of insanity about him, Shakespeare is a great difficulty which Mr. Nisbet evidently prides himself in having done something to remove. He tells us that Masson has discovered that he (Shakespeare) "was, in his solitary hours, an abject and melancholy man." Three of the poet's sisters died in childhood, one brother in early manhood, and two others in what ought to be the prime of life. Mr. Nisbet informs us that the retirement of the great dramatist to Stratford-on-Avon when he was 48 was not owing to his having made a fortune, but owing to his health having broken down, and he assumes, without any adequate proof, that his last illness looks like successive shocks of nervous disorder. Mr. Nisbet gives us the choice between a paralytic or an epileptic seizure or paralysis agitans. As for his children, they either died in infancy or they were stupid. Judith must have been either capricious in her rejection of offers of marriage, or very unattractive, for she was 32 years of age before she secured her husband, Thomas Quincy, a vintner, not of good family nor particularly well-to-do. As for Susannah, who married Dr. Hall in her 25th year, she was a stupid woman who sold her husband's medical manuscripts without reading them. The statement that she was "witty above her sex" Mr. Nisbet regards as conventional "tomb-stone flattery." Suppressing the continuation of the epitaph, "More than all, wise to salvation was good Mrs. Hall," he observes: "Unfortunately, this is all that can be told to her credit." On the other side of the account, our author lets us know that Mrs. Hall was troubled in childhood with scurvy, and had a daughter who had tortura oris, inflammation of the eyes, and ague. So that we are bidden to insist no more about the healthy character of the genius of Shakespeare. The observation that the families of men of genius have a tendency to die out could be better considered under the broader statement that aristocracies and families living in luxurious social conditions do not habitually keep up their numbers. Mr. Nisbet's book is written for the general reader, but his subject will always have a great interest for medical men, who, however, will be cautious in letting their assent wander far beyond the evidence adduced. Perhaps if the author had been more careful in sifting his statements, and had presented his conclusions in less startling terms, his work would have had less attraction for the public.—*British Medical Journal*.

THE
Montreal Medical Journal.

VOL. XX.

MARCH, 1892.

No. 9.

THE THERAPEUTICS OF ICHTHYOL.

A number of pamphlets received will serve as a text for one or two observations upon Ichthyol. The German experience is given on the authority of Dr. Edgar Kurz, Dr. Kleim, Dr. Muller, and Dr. Hartman; the French by Dr. Stocquart. In English, Dr. Cranstown Charles relates his trials in the *Lancet*, 26th September, 1891, and in addition Mercks' *Bulletin* devotes a portion of a recent number to this drug. Ichthyol is obtained by distillation of a bituminous quartz, found in the Tyrol, containing fossil fish remains. The only substance so prepared, yields on rectification a colorless green fluorescent body containing about $2\frac{1}{2}$ per cent of sulphur, which when treated with concentrated sulphuric acid yields in turn a new product containing 18 per cent of this element. Combinations with one or other of the caustic alkalies can readily be formed. The ammonium salt is the more common of these and goes by the name of "ichthyol." It is a thick, fatty-looking fluid, with a colour varying from a dark yellow to a brownish black, and possessing a marked bituminous smell and taste. With oils and vaseline it is readily miscible, and is slightly soluble in ether, water and alcohol, but easily soluble in chloroform or in a mixture of ether and alcohol. Ointments can be made with ichthyol and lanoline, zinc ointment and glycerine, varying in strength from 5 to 50 per cent. The ammonium and lithium salts may be given internally in pills containing a grain and a half of the salt or in capsules containing 38 grains; also in the form of an alcoholic ethereal solution containing from 10 to 30 per cent of ichthyol, and an ichthyol soap can often be used with great

advantage. Ichthyol may be given internally up to 15 grains daily without producing any bad effects, and experiments on animals have proved its use to be quite harmless, daily doses of 300 grains only producing diarrhoea. Being very oxidisable. Ichthyol draws oxygen away from the tissues, so that it is a reducing agent; and at the same time it produces an invigorating and antiseptic influence throughout the body and an astringent effect on the vessels, so that it can be used with advantage in many diseases in which there is a dilatation of the capillaries. Details are given of its successful employment in cases of burns, scalds, erythemata, herpes zoster, eczema, acne, syccosis menti, psoriasis, pityriasis capitis, prurigo senilis, boils and carbuncles, erysipelas, rheumatism, gout, neuralgias, contusions and catarrhs. The effects that ichthyol has produced in the hands of these men is such as to warrant a trial. For a good many months it has been employed here, and in one case an erythematous condition with a continuous history of forty years yielded to its use.

PATENT MEDICINES AND THE LAY PRESS.

At the annual meeting in Ottawa, March 3rd and 4th, of the Canadian Press Association, Dr. Playter brought up the subject of patent medicines and cure-all advertisements. Why, the doctor said, should the general press insert such advertisements any more than the medical press? Patent medicines did an incalculable amount of harm. They promoted intemperance and disease, mislead the people in many instances until it was too late, disease having progressed too far for medical skill to apply successful remedies. The most excruciating pain of all pains, to most readers of papers, was "Paine's Celery Compound." The press was a powerful educator, a great power for good or for ill. The time would surely come when the general press would not advertise such humbugs. Dr. Playter asked for a committee to be appointed by the president to report on the subject at the next meeting of the Association. The president referred the question to the executive committee, and said the Association would be pleased to have a paper on the subject for next year's meeting from Dr. Playter. The doctor intends to prepare a paper and to urge upon the Association the desirability of more discrimination in regard to advertisements.

MONTREAL MEDICAL JOURNAL.

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

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APRIL, 1892.

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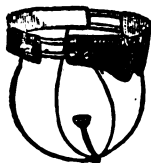
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

APRIL, 1892.

No. 10.

Original Communications.

A CASE OF EXTRA-UTERINE FŒTATION.*
OPERATION AND REMOVAL AT THIRTEEN MONTHS.

By EDWARD A. MCGANNON, M.D.,

Surgeon to the St. Vincent de Paul Hospital, Brockville: Out-District Surgeon to the
G. T. Railway, Etc.

Mr. President and Fellows,—Originally, I intended merely to exhibit this specimen and make a short report of the case; but on looking back over the past ten years, I can now see many cases that have gone “the way of all flesh” undiagnosed, consequently puzzling and most vexatious, causing unhappiness, for the time at least, to myself and no doubt to some of the friends of my patients. And having had the subject brought most forcibly before my mind recently by two cases—one where the post-mortem showed a ruptured tubal pregnancy to be the cause of death, and the other where a suspected tubal pregnancy led to operation when the condition present proved to be one of pyosalpinx and an enlarged ovary—I determined on dilating more fully on the subject.

I find, on reviewing the writings of the best authors on this subject, that many prominent men differ in their opinions, and very unflattering epithets have been used, even by the first men in the profession, over such differences. “*Extra Uterine Gestation*,” “*Ectopic* or *Ectopian Gestation*,” is the development of the impregnated ovum outside its normal locality. To trace out the pathological conditions existing one must of necessity

* Read before the Medico-Chirurgical Society of Montreal.

refer to histology and physiology. The functions of the tubes, it is generally agreed, are to transmit the ovum from the ovary to the uterus, and permit the passage of spermatozoa from the uterus in the direction of the ovary. The ciliated epithelium lining the tube and the peristaltic action of its walls aid in this matter. In regard to this, Michael Foster, in his "Text-Book on Physiology," says "the spermatozoa find their way into the Fallopian tubes, and here in its upper part comes in contact with the ovaries. In some of the lower animals impregnation may take place at the ovary itself."

Lusk says "after coitus the spermatozoa make their way through the Fallopian tubes to the pelvic cavity, and it is *possible*, therefore, for the ovum to become impregnated at any time on the way from the ovary to the uterus." It is a well-known fact, and one not to be forgotten, that *spermatozoa* move by *inherent force* at a rate variously estimated. Henle says "they move an inch in seven and one-half minutes." Sims calculates that "they move their length in a second," nor are their movements easily interfered with, for Robin states "they push out of their way epithelial cells or crystals ten times their size."

The inherent power of the spermatozoa is made manifest in those cases where women have become pregnant with an almost imperforate hymen, or with atresia vaginæ so nearly complete that there was only a small fistulous tract leading to the uterus, or in that remarkable case where the spermatozoa reached the uterus through the bladder, having to pass through the urine. Kœberle reports a case "where the uterus had been amputated two years before for fibroid tumour, but a fistula was present in the cicatrix of the cervix through which spermatozoa passed into the abdominal cavity and pregnancy resulted. That when one tube being closed, the ovum may become impregnated by spermatozoa from the other tube is shown by the experiments of Leopold. He tied the right Fallopian tube in rabbits in two places and exsected a portion of the tube between the ligatures, the left ovary was carefully removed and the abdominal wound closed. After recovery the rabbits were put to the male. In two such cases pregnancy resulted."—(*Arch. f. Gynæc.*, vol. xvi., page 24.

That the spermatozoa *may* and *do* find their way into the abdominal cavity Bischoff has proven beyond a doubt; both he and Parry have seen them on the ovaries. Of this Leishman says "the ovum, as has been shown, is developed within the ovary in the Graafian vesicle; while yet it occupies that position, even before rupture of the vesicle has taken place, impregnation may occur.

Parry, in his work on "Extra-Uterine Pregnancy," does not think it difficult to conceive of the rupturing of the Graafian follicle and the ovum remaining, and thus affording a better opportunity for the spermatozoa fecundating the egg in its very shell. He says, "When we remember the process by which the ovum escapes from the Fallopian tubes it may occasion no surprise that it should be sometimes retained even after rupture of the vesicle of De Graafe has occurred."

Regarding the functions of the tubes and ovaries, Mr. Tait has proven conclusively that ovulation *can and does take place before, during, or even after* menstruation ceases, and that the change at puberty of greatest importance is in the functional movement of these accessory organs—that is, the "grasping," so to speak, of the ovary by the fimbriated extremity of the tube at only stated times or during the menstrual epoch. Ovulation and menstruation are not always coincident; the passage of an ovum does not always take place, though the fimbriated extremity is grasping the ovary, since it frequently happens that at such times no ripe ovisac present. If, then, as has been shown, ovulation continues inter-menstrually when the tubes are quiescent, the question arises, What becomes of the ovum when the sac ruptures? There is only one place it can go, and that is into the peritoneal cavity, where it perishes and is absorbed.

Mr. Tait, in his work on "Diseases of the Ovaries," says, "I believe that the ovum falls into, and perishes in, the peritoneal cavity in by far the greater number of cases, and that the passage of it into the uterus occurs in only a small percentage."

The ovule is short-lived, and if not vivified in the tube by contact with the male element degenerative changes will destroy its vitality before it reaches the uterus. Charpentier and other recognized observers claim that after it passes the outer third of

the tube it is covered by a layer of albumen which the spermatozoa cannot pierce. Many other facts could be given to prove that impregnation does not occur in the uterus.

Regarding other than normal pregnancy, Tait's amended classification is probably the best yet devised, as given in the *Lancet*, Sept. 1st, 1888. He divides the different forms of gestation into

I. *Ovarian*—not yet proved, though possible.

II. *Tubal*.—In free part of tube, and is contained in tube up to 14th week, at or before which time primary rupture occurs, and then the process of gestation is directed

Either into abdominal or intra-peritoneal gestation, uniformly fatal either from hemorrhage or suppuration of ruptured sac and peritonitis ;

Or into broad ligament extra-peritoneal gestation ; when it may develop in broad ligament to full term and be removed at viable period as a living child ;

Or may die and be absorbed as extra-peritoneal hæmatocele ;

Or may die and the suppurating sac discharged at or near the umbilicus, or through the umbilicus, or through the bladder, vagina or intestinal tract ;

Or may remain quiescent as a lithopædian ;

Or may become abdominal intra-peritoneal by secondary rupture.

III. *Tubo-uterine or Interstitial*.—Is contained in that part of the tube embraced by the uterine tissue, and so far as known is uniformly fatal by intra-peritoneal rupture before the 5th month.

Of these, by far the most common form is the tubal. All agree that the majority of cases are primarily tubal.

Causes.—Are stricture of the tube due to lessening of its calibre by old inflammation or by contraction of lymph thrown out by pelvic peritonitis and flexions of the tubes.

Tait gives us "desquamative salpingitis" as a cause ; here, catarrh of the mucous membrane leads to loss of cilia and allows of the implantation of the impregnated ovum on the surface of the denuded tube.

Lusk gives as a cause "dilatations with hernial pouches due

to protrusions of mucous membranes through the separate bundles of muscle fibres of the tube."

The Diagnosis.—Cases proved by abdominal section or post-mortem show that diagnoses have been made before rupture, but it is rarely done, and in any case can only be presumptive, because the same symptoms are present in cases of "retroflexed gravid uterus," in "ovarian cyst," "uterine fibroid," "hemato-salpinx," or pregnancy in the rudimentary horn of a bicornate uterus. All these conditions, at different times, have been diagnosed as extra-uterine pregnancy.

Want of diagnostic skill may by some be assigned as the cause of mistaken diagnosis. Such cannot be charged against Dr. Mann of Buffalo. Yet Dr. Mann diagnosed a case as one of extra-uterine pregnancy, and, as he supposed, killed the embryo by electricity. That same case, a short time afterwards, fell into the hands of Dr. Wylie of New York, who operated and found a large purulent sac containing a pint or more of fluid, but nowhere any trace of an extra-uterine pregnancy ever having been present.

Dr. Mundé diagnosed a case as one of extra-uterine pregnancy and operated, only to find a normal pregnancy in the rudimentary horn of a bicornate uterus. This mistake in diagnosis would surely not be attributed to want of diagnostic skill on Dr. Mundé's part.

From the nature of things, most cases rarely come under observation before the period of rupture, because there are seldom symptoms, or, if any, not alarming enough to lead the patient to seek medical aid.

The symptoms of the period prior to rupture are indefinite and indistinct, as best given by Dr. Joseph Price, are :

I. As partial or complete cessation of menstruation for one or more periods, generally accompanied by other rational symptoms of pregnancy, though occasionally all these are wanting.

II. Pain which is peculiar, being generally severe, paroxysmal and long continued ; a *sickening* pelvic pain which is neither cramp-like nor colicky, though it is often described by these terms ; these pains, probably caused by distension of the tube, are apt to subside for a time, only to recur again.

III. The appearance of uterine hemorrhage, which is again peculiar, in that it is usually irregular both as to time and quantity, generally lighter in colour than the normal discharge, and contains shreds of tissue which are portions of decidua vera.

Physical examination further shows the uterus slightly enlarged, cervix soft and patulous, and to either side and slightly behind is found a painful mass.

Histories are not to be relied upon in making a diagnosis in extra-uterine pregnancy before rupture. It is only after repeated examination and watching the enlargement of the tumour that we can even make a presumptive diagnosis. There is one point, however, in the history of most cases that should be of some assistance—that is, there has been a long period of sterility either with no former pregnancy or following one or more confinements. Parry says, "Women who have become pregnant with the child outside the uterine cavity frequently show a previous inaptitude for conception. If the woman has borne children a period of sterility frequently precedes the extra-uterine pregnancy." This was the case with my patient; she had already borne five children, and then did not become pregnant for nearly ten years; during which time she suffered with continuous pelvic trouble.

Now, a *diagnosis of extra-uterine pregnancy* having been made, how are we to treat the case for the best interests of the patient? If diagnosis be correct, and the tumour left undisturbed, it will continue developing until about 12th week, when rupture takes place, which in the majority of cases means death to the mother, unless relieved by operation. Of 149 cases of intra-peritoneal rupture reported by Parry, 145 proved fatal.

Reading the mass of literature on this subject which has appeared within the past few years, it is plainly seen that the only scientific and certain treatment is by abdominal section and extirpation of sac and contents. I am aware that this view is disputed by the advocates of electricity, among whom may be numbered men who are not lacking in experience, diagnostic skill, or sound judgment. In the hands of competent men the removal of these sacs should be neither more difficult nor dangerous than that of a "cystic ovary" or "pus tube."

The method of treatment by electricity has objections.

There is no certainty that the foetus will be killed and the growth stopped. Tuttle reports a case where the faradic current was passed through the mass for ten days without reducing size of tumour. In this case the thorough and intelligent use of electricity for the purpose of destroying the embryo was followed by no evident amelioration of symptoms nor interruption in growth of tumour, but, on the contrary, continued to grow worse.

The treatment is not without danger. Brothers cites four cases which had presented alarming symptoms during or after the application of electricity. Baldy of Philadelphia had a case where severe peritonitis followed a single application.

It is slow in its action, and while waiting for its effects other accidents may happen, as tubal pregnancy frequently ruptures before the 13th week.

It almost invariably leaves the patient with dangerous after conditions, even in cases reputed as cured. The sac and contents not infrequently had to be removed later by laparotomy. Tuttle reports the case of a foetus passed by rectum after electrical treatment. Hanks reports cases in which, after electricity, the foetus passed by the bladder, rectum and uterus. Thus it appears as an unscientific and wholly unsurgical procedure; and even though the embryo be destroyed, it does not give the patient immunity from subsequent dangers.

All tubal pregnancies must rupture, and this event may take place from the 8th to 14th week; the tension caused by the growth of the gestation brings on a spasm of the muscular walls, causing a separation of a portion of the placenta and allows of bleeding; part of the blood passes through the uterus, the rest remaining increases distension. This process repeated, in the end causes rupture, which may take two directions—*intra-peritoneal, the fatal form*; or into the broad ligament, *the extra-peritoneal form*.

In the "intra-peritoneal form" there are two cardinal symptoms—shock and hemorrhage; there is collapse, shown by cold, clammy skin, intense pallor, vomiting, etc., death often ensuing in a few hours. The patient may recover from the

shock, only to be attacked again within a few days, when from repeated hemorrhages death ensues unless surgical steps interfere. In the diagnosis of this form we must not expect to find a definite tumour, for the blood is unlimited by any membrane; it can be felt as a soft bag bulging into the vagina. No tumour can be detected above the rim of the pelvis.

In the "extra-peritoneal" variety the symptoms are not marked, the shock slight, pain is not so severe, and power is soon regained; there is, however, more bearing-down sensations, difficulty of micturition, and defæcation is increased. If examination be made at once, a boggy condition of the pelvis is encountered; if examined after a few days, the distension will have disappeared from the spreading of the effused blood into the connective tissue of the pelvis.

About three-fourths of all "extra-uterine gestation" die, and more than half die shortly after rupture. The condition is one of concealed hemorrhage from the rent in the tube, the blood vessels keep pouring blood into the peritoneal cavity, here it is diluted by peritoneal lymph and thus prevented from clotting; there is nothing to check the hemorrhage, which continues until the patient is exhausted, or temporarily stopped by nature's means—fainting. In treatment, the same principle applies here as in other parts of the body—surgical; the hemorrhage demands that you cut down and tie the bleeding point.

The "extra-peritoneal form" should be treated as a simple hæmatocele; if possible, it should be left alone or such palliative and sedative treatment adopted as pelvic pain, obstructed defæcation or obstructed micturition may call for. The only dangers the woman is subjected to during this period are from secondary rupture into the peritoneal cavity, from inflammation and suppuration in the sac, and when the foetus having died, Nature trying to eliminate the foetus by fistulous openings in various directions.

When secondary rupture has taken place into the peritoneum the abdomen should be opened and blood removed, then sac incised, contents scooped out (foetus may be present or may have been absorbed); any hemorrhage still going on in the sac stopped;

the edges of the sac should be brought into the incision, which should be closed except at its lower part, where a drainage-tube should be inserted. If a definite placenta be present it should not be touched, as great hemorrhage is likely to take place from its site, and there is no efficient means of arresting this hemorrhage. So in the treatment of "extra-uterine pregnancy," between the primary rupture and the viable period, there are only two alternatives worthy of consideration, namely, *expectancy* and *laparotomy*; and as with the present method of treating the placenta the operation at full period is not more dangerous. I would say give the child a chance and enjoin on the mother precautions as to avoidance of exertions likely to produce secondary rupture or death of the foetus. At full time we may operate during the false labour, or allow the child to die, and operate when circulation through placenta has ceased.

In coming to a decision, too much reliance should not be placed in the older statistics, for the majority of cases operated on before the days of antisepticism died through lack of cleanliness of the peritoneal cavity. The peritoneal cavity being a gigantic lymph sac, poisonous matters might as well be injected into a vein as left there.

In the primary operation, great success was obtained by Veit of Berlin and Mr. Tait. Veit reports seven successful cases; Tait, out of five cases, saved three mothers and all the children. This, combined with our better means of dealing with all the conditions within the abdomen, to my mind makes this the proper treatment. On account of the rearrangement of the peritoneum we should make the incision well to the side of the middle line to which the gestation is. When the sac is opened the foetus should be carefully lifted out by the feet. Tait then squeezes all blood out of placenta, ties the cord close to it, and cuts it off. The sac is then cleansed of all blood, membranes, etc., filled with water, and stitched tightly around drainage-tube, through which the water is drawn off and then opening closed. When it is possible to tie a big pedicle round attachment of the placenta to the tube and broad ligaments, which contains most of the blood vessels to the placenta, this should be done and the placenta removed; bleeding can be stopped by perchloride of iron.

When the case is seen after death of the child, the operation should be deferred until absorption of the amnion and placenta circulation has ceased. This period is variable. Schröder found in one case obliteration of the vessels three weeks after death of foetus, while De Paul lost his patient from placental hemorrhage four months after death of foetus.

CASE REPORT.

Mrs P., aged 36, a well-developed woman of medium stature, began to menstruate at 14 years. Menstruation was always accompanied by considerable pain; flow usually free and lasting about four days. Married at 17, and had five children; no miscarriages. Last child was born February 1879. During these nine and a half years she had been regular every month; no more pain than usual; no leucorrhœa. She always complained of pain on left side, and was tender on pressure. In September, 1888, her menses ceased. She did not think she was pregnant; thought she had taken cold. About the twelfth week after, on getting out of bed in the morning, was seized with a sharp pain in the hypogastric and left inguinal region. This pain was of a colicky nature, and extended down the thigh, and so severe in its nature that patient fainted away. On recovering, pain continued to increase in severity. During this time there was a discharge from the vagina, pale pink in colour, as though water and blood mixed. No membranes or shreds. She remained in bed for about eight weeks, during which time her physician treated her for severe grinding pains, which he told her was due to inflammation of the womb. These pains were continuous. Turpentine stupes and mustard *ad lib.* had no effect. It was not until she was out of bed, about the fifth month, that she noticed any enlargement of the abdomen. At this time a small lump was detected low down in the left of hypogastrium. This gradually kept getting larger. About the seventh month only did she begin to feel movements of the foetus. Pain still continued getting more and more severe, described as though tearing in side of body. She could not lie down on account of this pain. As she approached full time, pain was so severe that it required hypodermic injections of

morphia to obtain relief. About the ninth month, and after two rapidly-repeated injections of morphia, she felt a quivering sensation in the abdomen and afterwards all movements ceased. Pain also ceased, and none until nine days after, when she began to have severe pains resembling labour pains. They continued from 1 P.M. until about 10 P.M., when they gradually left. Her physician gave her ergot and in other ways tried to awake labour pains in order to complete delivery. Nothing being accomplished, outside medical advice was sought, but no diagnosis of the actual condition was made. I was sent for about four days later, and after dilating the os found an empty uterus. The history of the case, the position and condition of uterus rendered the diagnosis comparatively easy. The child was then dead, so nothing was to be gained by an immediate operation.

Now this was a most typical case. 1st, The time from last pregnancy. 2nd, Pain and tenderness in left side; probably salpingitis. 3rd, Rupture and course of pregnancy.

I suggested her removal to the hospital and there prepare her for the removal of foetus. She did not give consent and I withdrew. I took a trip out to the Indian Territory, and remained away two months. On my return I found my patient in the hospital awaiting operation. She had become greatly emaciated, suffered severely from night-sweats, and other symptoms of blood poisoning. She was well on in the thirteenth month when I operated. Assisted by my brother, Dr. Matthew C. McGannon, I opened the abdomen and stitched the sac to the edges of the wound, then opened the sac and removed 12 qts. of yellowish, milky-looking fluid, and then the foetus, which had become attached in several places to the side of the sac, bands having been thrown around the legs and arm, one so strong that I had to remove the arm at the shoulder and carefully dissect off the adhesion. The placenta I found detached and lying loose in the bottom of the cavity. I washed out the sac with warm water until nothing was left. My patient had ceased to breathe, but the hot water quickly dashed into the sac revived her, and by the continued efforts of my assistant she rallied. Drainage-tubes were left in the wound, and the sac was daily washed. No bad symptoms followed and she made a rapid recovery. Is now a strong, fat and healthy woman.

THE NATURE OF CEREBRAL PRESSURE AND THE PRINCIPLES OF TREATMENT OF THE SO-CALLED BRAIN PRESSURE SYMPTOMS. BY PROFESSOR ADAMKIEWICZ.

TRANSLATED BY J. W. STIRLING, M.B., &c.

The old theory of brain pressure was based upon the idea that the cerebral nerve tissue was incompressible, and that there was an increased tension of the cerebro spinal fluid arising from its displacement by an intracranial growth. This increase of pressure would occlude the cerebral capillaries, causing cerebral anæmia. The abnormal cerebral symptoms therefrom arising were embraced in the term "brain pressure symptoms."

Adamkiewicz, by the following experiment, has proved that the brain tissue is compressible. He inserted a piece of laminaria between the dura mater and the brain of an animal. This became imbedded in the brain tissue as in soft mass, and on its removal left a depression in the brain corresponding to its form and size. The microscope showed the nerve elements to be evidently diminished in size and crowded together.

The mechanical explanation is as follows :—

The skull is composed of porous bones perforated by many small canals, through which the cerebral fluids are in free communication with the lymph and blood-vessels of the rest of the body. Every foreign body or growth inside the skull will thus form a cavity of sufficient size for itself, expressing an amount of fluid from the compressed brain tissue corresponding in volume to its own size, this fluid being forced into and escaping by the blood and lymph vessels from the cranium. There is no increase of tension of the cerebro-spinal fluid.

He proved in the foregoing experiment, by using the graphic method, that during the swelling of the laminaria there was no alteration of the pressure in the jugular or carotid.

Intracranial growths hence do not alter the normal blood current in the brain. At the moment of pressure the liquor cerebri, instead of compressing the capillaries, re-enters the blood-vessels or leaves the skull by some similar way.

It behaves thus as any ordinary transudation from the blood, being only poured out in a quantity corresponding to the space existing between the skull and brain.

It is, on the one hand, controlled by the blood pressure, and, on the other hand, can never exert any positive influence on the blood, nor set up an increased tension of itself.

Hence the liquor cerebri can never cause cerebral anæmia, but the contrary.

The congestive hyperæmia due to backward pressure of the blood increases the secretion of the liquor cerebri, and this can set up an increased tension of the same in the skull.

An intracranial growth can not cause cerebral anæmia.

If in the experiment with the laminaria, while it was swelling, one injected a solution of coloured lime into the carotid of the animal and afterwards examined the brain microscopically, one would find, especially at the spot compressed by the laminaria, that the vessels were dilated.

The cerebral vessels are hence not occluded by an intracranial growth, but are dilated and increased.

The cerebral pressure symptoms are not the result of increased intracranial tension, but the general expression of the irritation and paralysis of the otherwise altered brain substance.

For example, the same symptoms can be caused by hammering the skull of an animal, or stimulating the cerebral cortex by electricity, or by slowly withdrawing the blood from the brain, or injecting some irritating fluid into the carotid.

The resulting symptoms were invariably nystagmus, disturbance of respiration, slowing of pulse, convulsions, and finally, if irritation continued, coma and death.

Now, since the physiological liquor cerebri does not give rise to brain pressure symptoms, yet it is possible that the ex- and transudations occurring inside the skull under pathological conditions can attain an unusual degree of pressure, and give rise to the phenomena attributed to brain pressure.

Now it was desirable to ascertain whether, upon the injection of fluid into the cranial cavity, there corresponded to every artificial increase of pressure a special morbid symptom; and further,

whether death occurred whenever the tension of the injected fluid equalled the carotid pressure, and accordingly closed the capillaries, stopping all inflow of arterial blood to the brain. Adamkiewicz performed a series of experiments with a specially constructed apparatus for this purpose. The fluid used was an 0.6 per cent. solution of salt heated to 80°C.

In some experiments atmospheric air was used instead.

It was found that if one of the so-called brain pressure symptoms appeared on using a certain force, that the rest of them followed very completely or were very easily induced, even if the injection pressure were very slightly raised.

Hence Adamkiewicz holds that the separate brain pressure symptoms were equivalent to one another, and that the absolute force with which the fluid is driven into the cranial cavity forms no exact criterion as to the symptoms likely to be elicited.

No exact relation as to the dependence of the results upon the pressure can be proved.

Hence the so-called brain pressure symptoms have nothing to do with the exciting pressure—i.e., with the pressure as a purely physical action.

The arterial curve corresponds exactly with the infusion phenomena, but, on the other hand, there exists no comparative relation between the arterial and infusion pressure.

The form of the arterial curve does not correspond to the simple pressure curve observed when there is a hindrance to the outflow of blood in the capillary area.

The latter curves are rectilineal and proportional in size to the obstruction in the capillary area.

Thus the injections into the cranial cavity do not act mechanically by capillary compression, and hence do not possess the power of mechanically causing cerebral anæmia.

The venous curve, on the other hand, mounts gradually at first, and then, without anything interfering in the continuity of the infusion into the cranial cavity, the curve suddenly rises very steeply to a certain height, whence it continuously sinks until the animal experimented on dies.

The passage of the infusion fluid out of the skull into the veins

of the neck and its lethal result proves that fluid within the skull kills as soon as it equals in pressure the low pressure of the intracranial sinuses, this being not more than 6–8 mm. of Hg. inside the skull.

The capillaries always have a higher vascular pressure than the veins, because the vascular pressure from the beginning of the aorta to the right side of the heart gradually sinks.

Thus the idea that in the cranial cavity there could be pressures occluding the capillaries before affecting the veins is, from a physiological standpoint, paradoxical.

That the pressure of the infusion fluid, which acts lethally, does not in the slightest compress the capillaries is proved by injecting some carmine lime into the carotid of the animal being experimented on, then harden the brain and examine microscopically.

In regard to the mechanism of the infusion, the venous curve shows that the pressure with which the fluid is forced into the cranial cavity is not an index of the tension the fluid attains inside the skull, but only shows us the force which is necessary to drive the fluid on into the veins, and which in the most favourable cases causes a tension which equals the low pressure of 5–8 mm. of Hg., being that of the intracranial veins.

It can thus be easily understood how that after the most powerful injections into the cranial cavity the brain is not found to be flattened, since as soon as the pressure reaches that of 6–8 mm. of Hg. the animal dies.

To discover the path of the fluid so injected, Adamkiewicz added a solution of Berlin blue to the salt solution. The colouring matter was found under the pia mater in the subarachnoid space, showing a special tendency to collect at the base of the brain and medulla oblongata. The fluid, immediately after its entry within the skull, reached the veins, and since it was later found in the subarachnoid space, the course is easily understood which the fluid took and how the brain oedema arises. The infusion sets this up when it surpasses or only attains the low venous pressure of 5–8 mm. of Hg.

Since, now, oedema of the brain is the only morbid change

found in these cases, and since the so-called brain pressure symptoms are purely the expression of disturbed cerebral functions, it must be conceded that the phenomena formerly called brain pressure symptoms are set up by, among other causes, oedema of the brain.

Each symptom is nothing else than a cerebral irritative or paralytic phenomenon.

In oedema of the brain, the symptoms arise from the contact of the pathological oedematous fluid with the cerebral tissue. Thus one perceives why the irritative phenomena set up by the infusions into the cranial cavity vary so easily, and why each of them are equivalent to one another.

In order to demonstrate how easily the fluid passes from the skull space into the veins, Adamkiewicz used injections of atmospheric air. At the beginning the manometer, as in fluid infusions, rose gradually, then very suddenly and with headlong force it rushed up, the animal forthwith dying with convulsions and respiratory disturbances. The manometer remained at this height, never falling.

The section demonstrated, besides accumulations of air in the veins of the neck, in the innominate, and in the right side of the heart, great venous congestion of all the abdominal organs, lack of blood in the pulmonary artery area, and as a result thereof in the arterial system generally. The general anæmia affected also the brain, and through the interrupted blood flow to the brain gave rise to the so-called brain-pressure symptoms.

Most important was the proof that between the cranium and heart a very free communication existed, and that this communication allowed the free entrance of any intracranial matter into the right side of the heart, the pulmonary system through these capillaries into the aortic system, and by backward pressure even into the inferior vena cava, etc.; and that this occurred so soon as the low pressure of the intracranial veins was only slightly overstepped.

The experiments on animals prove the possibility of an "embolisierung" of the heart from the brain, which is not impossible among human beings.

Concerning the origin and regulating of the cerebro spinal fluid, the experiments show that it is a transudation from the cerebral capillaries, and corresponding to its source must have a slight positive pressure of 5–8 mm. Hg.

Transuding under the influence of the ruling pressure in the capillaries, it reaches the perivascular space.

Fresh formation of the fluid causes a corresponding outflow in the intracranial veins and thence into the right side of the heart.

The driving and regulating forces which send the fluid from the capillaries into the veins must be the physiological differences between capillary and venous blood pressure.

A disturbance of the normal variations of these differences can only result from the venous side ; when the pressure in the veins rises and more nearly approaches that of the capillaries, the source of the liquor. Through this the natural outflow becomes less, and a choking up of the liquor cerebrealis results.

To this cause may be reckoned everything which disturbs or hinders the outflow of venous blood from the superior veins into the right heart.

Every blockage of the outflow of the liquor, unless very transitory, must give rise to symptoms arising from imperfect nutrition of the brain, viz., nystagmus, convulsions, etc.

The old teaching about brain pressure connected two entirely different pathological conditions of the brain : 1st, The intracranial action of a growth occupying and limiting the skull space. 2nd, The pathological action of fluid occupying completely the space between the skull and brain. The former compress the brain, and one may distinguish three grades of action of this compression. The first grade embraces the compression which the brain can stand without any functional disturbance. In the third grade the pressure destroys the brain tissue. The second lies between these two and gives rise to a series of functional disturbances.

This last is pathologically the most important. If this grade acts on the motor area contra-lateral attacks of hemiclonus appear, then spastic phenomena, and finally, hemiplegia and disturbances of the motor innervation of the eye and of the nutrition

of the bulb, but never optic neuritis. All these disappear on removal of the pressure.

Therapeutically the removal of compressing growth is indicated.

In the second group before mentioned of accumulation of fluid between brain and skull, it is not, as formerly supposed, a case of increased tension, but the abnormal fluid arises through congestion in the lateral ventricles or from overflow of the intracranial veins, both leading to oedema of the brain. Here only venesection can assist, not as formerly supposed and tried, trepanning to let out the fluid.

A CASE OF HYPERTROPHIC CIRRHOSIS OF THE LIVER AND SPLEEN OF NEARLY THREE YEARS' STANDING ;—

PERSISTENT JAUNDICE—REPEATED ATTACKS OF ERYSIPELATOUS INFLAMMATION OF THE SKIN—BILATERAL HERPES ZOSTER—FACIAL AND CERVICO-BRACHIAL NEURALGIA—PNEUMONIA—POLYARTHRITIS—MULTIPLE NEURITIS—ALBUMINURIA—CHYLURIA—ACUTE MILIARY TUBERCULOSIS—DEATH.

BY JAMES STEWART, M.D.,
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The following case of hypertrophic cirrhosis of the liver was the subject of a clinical lecture delivered by the late Richard L. MacDonnell in the Montreal General Hospital in February, 1891, and published in the first number of the *International Clinica*. The case presents so many features of clinical interest that a record of the main events in the subsequent course, together with an account of the post-mortem, will prove of interest to many. The post-mortem, it will be seen, confirms entirely the diagnosis arrived at by Dr. MacDonnell. The remarkable series of complications from the early and repeated erysipelatous inflammations to the final acute miliary tuberculosis show in a very unmistakable way the profound changes induced by the disturbance of the hepatic metabolism.

The following is an abstract of Dr MacDonnell's clinic on the case—a good example of a diagnosis arrived at by exclusion :

“ This patient, whose case we shall study together to-day, is to

many of you no stranger. During the last eighteen months he has on several occasions been the subject of clinical instruction in this hospital.

I need scarcely call your attention to the striking features of the case, which you must perceive at once,—the deep yellow colour of the conjunctiva and the skin, the extreme degree of emaciation, and the marked distention of the upper half of the abdomen and lower half of the chest. We shall review his history, discuss the clinical events, and consider the question of diagnosis. From the voluminous notes of his case on record in the hospital books, the following report is condensed :

A. J., aged 41, labourer, admitted to the Montreal General Hospital November 28, 1890. He had just recovered from an attack of erysipelas, for which he was under treatment in the infectious ward of the hospital. He had always enjoyed good health up to the commencement of the present illness, and had never been confined to his bed except on one occasion, some twelve years ago, when he was said to have had ague. History of syphilis is entirely denied, though he acknowledges having been very intemperate in the use of spirits when he was younger. Latterly his habits have been steady and regular. The present illness began in July, 1889, when he noticed that the urine became of a dark colour, and later the white of the eyes became yellow, but he did not notice any change in the colour of the skin until some weeks afterwards. Two months later he began to suffer from pain in the epigastric and right hypochondriac regions, which was of a dull character and was increased by movement and deep inspiration. At this time, too, he began to perceive that the abdomen was increasing in size, and he suffered from a violent cough, which, when severe, caused vomiting, the ejected matters being of a greenish-yellow tinge. For many years he has been subject to hemorrhoids. During the greater part of last winter he was a patient in my wards in this hospital.

On his first admission, November 19, 1889 (just a year ago), he was weak and emaciated (he said that he had lost thirty-seven pounds in the previous six months) and had intense jaundice of the entire surface. He complained of very severe pain in the right hypochondriac region and the epigastrium. The

abdomen was enlarged and tense, particularly above, measuring at its widest part thirty-seven inches. The superficial veins were seen with unusual distinctness through the thin integument, but they were not distended. The liver was enlarged, and measured seven and one-half inches in the right mammary line and seven and three-fourths inches in the right axillary line. Its surface on palpation was quite smooth, and its margins were sharp and well defined. There was no ascites. The spleen was also greatly enlarged. Dulness on percussion extended from the seventh rib to a line two inches below the costal margin in the left axillary line. The areas of hepatic and splenic dulness united in the middle line, so that the upper half of the abdomen was dull on percussion from side to side. Occasionally a small space with tympanitic percussion (stomach ?) was found between the splenic and the hepatic dulness. The tongue was coated. The bowels were costive, but the stools were not clay-coloured nor were they offensive. The urine contained neither albumen nor sugar, but reacted to the tests for bile-pigment. Pulse 88. Cardiac and respiratory signs negative ; no dropsy.

The important question at this time last year was that of diagnosis, and I gave then reasons for believing the patient to be suffering from cancer of the liver. Time has proved that diagnosis wrong, but, inasmuch as it is only by studying our mistakes that we can ever hope to attain accuracy, I shall show you the weak places in the chain of evidence in favour of the existence of cancer of the liver.

From the circumstances of the case, to which allusion will be made later on, the choice rested between cancer or biliary cirrhosis (enlargement of the liver with jaundice), and I decided in favour of the former. These were my reasons :

1st. The enlargement of the liver was great and very rapid. The patient had been ill but four months all told, and during that short time the liver assumed these large proportions.

2nd. The liver felt hard and resisting throughout. True, it was not irregular in outline or nodular ; but we had just held an autopsy on one of my patients in Ward 11 who died of cancer of the liver, in whom the organ was enlarged and uniformly regular in its outline, and no nodules could be detected during

life. They were embedded in the surface of the organ, and did not project to a degree sufficient to enable us to feel them through the abdominal wall.

3rd. Severe pain in the right hypochondrium was an urgent and early symptom.

4th. Jaundice was early, deep, and persistent. I remember quoting to the class the dictum of Murchison, "The coexistence of enlargement of the liver with persistent jaundice ought always to raise the suspicion of cancer."

5th. The enlargement of the spleen I found difficult to reconcile with my diagnosis, but I got over the difficulty by attributing it to the previous ague. Enlargement of the spleen is rare in connection with cancerous liver. In the case of cancer of the liver already alluded to the spleen was of normal size.

6th. The general symptoms misled me also. The rapidity with which emaciation had set in, and the extent to which it had progressed in the few months of his illness, had a great influence upon my judgment.

The weight of evidence thus adduced out-balanced other considerations: although biliary cirrhosis was well thought over and the alcoholic history taken into consideration, the claims of malignant disease were too potent, and the presumption of biliary cirrhosis was cast aside.

The patient remained in hospital until February 8, 1890, and his condition underwent improvement, though the physical signs remained unchanged. At this time hæmatemesis very frequently occurred, and on several occasions there was severe bleeding from the nose. Pain was constantly complained of, its seat being in the right hypochondrium, so that hypodermic injections of morphine were frequently administered. In January, 1890, a small quantity of blood was from time to time coughed up. There were no physical signs in the lungs. Early in the morning of January 26, 1890, he had a convulsive seizure, the exact nature of which could not be ascertained, followed by rapid rise of temperature, and pain in the left ear. These symptoms were followed by evidence of the onset of erysipelas of the head, and he passed through a most severe attack of that disease, but made a very good recovery, and regained the ground he had lost.

By this time the diagnosis of cancer of the liver was abandoned, as excluded by time. Cancer of the liver does not last long, and a patient who remains nearly four months in hospital without getting worse cannot be considered the subject of it.

He left the hospital of his own accord. His next stay here was from the 9th of June to the 21st of July last. There was no change in his condition. He measured around the abdomen at the umbilicus thirty-five inches, and the girth of his abdomen at its greatest width was thirty-seven and a half inches.

The region of hepatic dulness began one and a half inches below the right nipple and extended downward seven and a half inches. In the axilla the liver reached as high as the seventh rib, and dulness extended downward nine and a half inches. The lower margin of the liver crossed the abdomen one and three-quarters inches above the umbilicus. Splenic dulness was found anteriorly as far as the nipple line, while vertically it extended from the seventh rib in the axilla to the crest of the ilium, nine and a half inches.

In the right lumbar region a mass was felt like a continuation of the liver down the right side of the body to the crest of the ilium. It was dull on percussion, and not tender. The heart had undergone some displacement upward: the apex beat at the left nipple. The expansion of the chest was limited to one inch. A few crepitating râles were heard at both bases.

There was no bile found in the urine.

A purpuric rash appeared above the right ankle, which was accompanied with considerable swelling of the leg. This was in the end of June, and after this swelling had subsided he began to complain of a burning pain under the right arm, which was soon followed by the appearance of a crop of small vesicles, which very neatly mapped out the cutaneous distribution of the intercosto-humeral nerve. The left axilla was also attacked, but not so severely.

When he had recovered from this very painful attack of herpes, he began to complain of pain on the inner side of both thighs, and a herpetic eruption made its appearance on the inside of the thighs and the scrotum, mapping out in this case the ilio-inguinal nerve. He was discharged July last.

The physical signs are now (November 28, 1890) practically the same. Since July he has been able to earn his living as a night watchman, but about ten days ago he had a severe attack of erysipelas in the right leg, for which he was admitted to the infectious wards, and on recovery came back to his old quarters in Ward 11. I notice to-day, however, one new symptom,—namely, about the right hypochondrium there is extreme sensitiveness to pressure, which appears to be superficial and is of recent origin. I think it is neuralgic, and a condition analogous to the herpes zoster from which he suffered last summer. In addition to this superficially diffuse pain, which is so severe that it would be cruel to touch the parts more than is absolutely necessary, there is also a deep-seated pain elicited by pressure at the lower margin of hepatic dulness near the nipple-line. This I found on the day of his admission, but, for the reason stated, I cannot demonstrate it now.

Let us consider now the diagnosis as it stands. The main symptoms are persistent and deep jaundice and enlarged liver.

The causes of enlarged liver are—1, fatty degeneration; 2, cancer; 3, cirrhosis (either syphilitic or alcoholic); 4, abscess; 5, leukæmia; 6, sarcoma; 7, amyloid degeneration; 6, hydatid disease.

The period of time during which the patient has been under our observation enables us to exclude cancer and sarcoma.

Abscess is usually accompanied with enlargement of the liver, with pain, and with jaundice, and the spleen is not infrequently enlarged too, but the constitutional symptoms are those of pyæmia, with rigors, sweats, and high fever, and the course of the disease is very rapid. There is a slower form of hepatic abscess which is met with in those who have lived in the tropics, but our patient has never lived out of Canada. Other symptoms accompany the enlargement of the liver due to leukæmia.

This resembles the fatty liver in size, in the uniformity of the enlargement, and in the absence of ascites; but pain and jaundice are not symptoms of fatty liver, and it is the most painless of all the enlarged livers. Fatty liver, moreover, is usually unaccompanied by constitutional symptoms, and if present they are few, not characteristic, and belong to the other organs affected.

The spleen is not enlarged when the liver is fatty degenerated. There is not enough portal obstruction to cause enlargement from vascular engorgement, and the spleen itself does not become fatty.

Is it a hydatid liver? Hydatids are extremely rare in this country, though the Icelandic immigrants in Manitoba are said to be subject to the disease; but it would be unsafe to exclude hydatid disease simply because it is a rare affection. The clinical characters of hydatids are not present in this case. The enlargement is uniform, not irregular. Nor is the spleen enlarged, nor does jaundice occur except as an incidental circumstance. Hydatid tumours usually produce no constitutional symptoms.

Is it a waxy liver? Some of you will remember the remarkable case of waxy liver which I showed to you in Ward 24 a few days ago, and you will remember that the patient had every appearance of good health. You may remember that I pointed out to you that the form of the body of the patient was in no way altered by the enormously enlarged organ it contained. The absence of constitutional symptoms or, in fact, of any symptom at all was remarkable. The woman had never suffered from any digestive disturbance, nor from vomiting of blood, nor from diarrhoea, melæna, piles, ascites, or jaundice, and a distinct cause existed in the presence of a purulent uterine discharge. The characteristics of the liver itself were entirely different from those which we observe in this case. Although its size was enormous, measuring thirteen and a half inches in the right mammary line, pain and tenderness on palpation were entirely absent and the growth of the organ had been slow and imperceptible. The history of that woman's case illustrates the difference between a waxy liver and the kind of liver we have to deal with in this patient.

We are forced now, by having excluded the other causes of enlargement, to regard this case as one of cirrhosis with permanent enlargement and jaundice. The points in favour of such a diagnosis are—1, age; 2, alcoholic history; 3, early history of digestive disturbance, vomiting, etc.; 4, early symptoms of portal obstruction, gastric catarrh, and hæmatemesis. Hemorrhages from other parts have been constantly occurring,—bleed-

ings from the nose, hæmoptysis, and subcutaneous extravasations, and these are common in cirrhosis, and are probably due to a deteriorated state of the blood present in that disease. Last year I exhibited before the class a patient with cirrhosis of the liver in whom there were present extensive extravasations of blood on the inner side of the thighs. The diagnosis in that case was verified by autopsy, and there was found also what is not uncommon in connection with cirrhosis, tubercular inflammation of the peritoneum. 5. The enlargement of the spleen greatly favours the diagnosis of cirrhosis. 6. The absence of ascites may be the result of the other escapes of blood, and may be accounted for, too, by the large size of the spleen, which may possibly be a kind of vascular diverticulum for an overloaded portal system. There is a special form of cirrhosis, however, known as "hypertrophic cirrhosis with jaundice," in which the liver remains large throughout. In ordinary cirrhosis, jaundice is either absent or present in a slight degree, while ascites is in almost every case a leading symptom. In this biliary cirrhosis the reverse holds good. Jaundice is persistently present, and ascites is absent, or, if it be present, it does not appear until a very late period of the disease.

I am therefore of opinion that the most reasonable diagnosis we can entertain is that of hypertrophic cirrhosis with jaundice.

Before we leave I would call your attention to a few points of interest.

The occurrence of erysipelas in cases of chronic visceral disease is not uncommon. You remember that he has had two attacks of the disease since he came under our notice. Patients suffering from affections of the liver and kidney are specially liable to erysipelas. Last winter we had in the hospital a medical student who was the subject of acute Bright's disease complicated with an attack of erysipelas of the face, and one of the cases of chronic Bright's disease which I demonstrated to the class last winter dated from an attack of erysipelas. The occurrence of herpes in connection with jaundice has been noticed by medical writers. In jaundice other skin-affections as well as herpes are not at all uncommon, notably urticaria, and most jaundiced patients complain of itchiness of the skin. The herpes in this

case is interesting for two reasons: first, on account of the nerve-areas which it occupied,—namely, the intercosto-humeral and the ilio-inguinal,—and, secondly, on account of its affecting both sides of the chest, which is very uncommon.”

The subsequent history of this case is as follows: On the 6th of April ('91) and two following days he suffered from a sharp attack of trifacial neuralgia of the right side, confined chiefly to the first and second divisions of the nerve. On the 9th of April he complained of pain in the right axillary region, the pulse and respirations being quick. On the 10th there was physical evidence of consolidation of the lower lobe of the right lung (pneumonia). He slowly recovered from this, but during convalescence was greatly troubled with pain in the right shoulder and right side of the face. During the entire period of the pneumonia, and for some weeks afterwards, he suffered severely from an arthritis of several of the larger and smaller joints. The right elbow, the left knee, the first metatarso-phalangeal joint of the right foot were red, swollen and extremely tender. For a few days the right knee showed symptoms of a lighter degree of arthritis. On the 15th of June it is noted that there was complete paralysis of the left arm and slightly of the right. He complained of severe spontaneous pain along the course of the main neural trunks in both upper extremities. The skin was anaesthetic, but pressure of the deep structure was painful. These symptoms clearly indicate neuritis of the nerves of the upper extremities. In the course of two weeks it had almost completely disappeared, the patient regaining the lost power. During the months of July and August there was a return of the joint inflammation, the knees and ankles being most affected. The severity of the pain necessitated the constant use of morphine. During the month of September there was oedema of the lower extremities, coupled with a diffuse erythema of the skin. During the first ten days of October he was troubled with diarrhoea, abdominal pain and fever. On the 13th and 14th of October all the urine passed was obnoxious. From this time up to his death, which occurred on the 28th of October, he was in a stuporous state.

Post-mortem, performed by Dr. Lafleur.—Body of a middle-aged man, 5 feet 10½ in. Muscles wasted; much emaciated; intense jaundice of skin and mucous membrane; post-mortem lividity and rigor mortis present; old scar on inferior surface of prepuce, near margin. Head: bile staining of dura; brain normal. Thorax: both pleuræ free from adhesions; pericardial cavity contains two ounces of dark-yellow fluid; pericardium smooth. Heart: all the cavities contain soft fibrinous clot and fluid blood; tricuspid valve admits four fingers, mitral two; endocardium bile-stained; valve segments everywhere normal; heart-muscle of a deep brownish colour; average thickness of wall of left ventricle $\frac{5}{8}$ in., of right ventricle $\frac{3}{4}$ in.; base of aorta quite smooth. Lungs: very heavy and firm; a fine, granular feeling on surface of pleuræ; on section, both lungs contain very little air and are hyperæmic; throughout both lungs, except at extreme apices, is a firm consolidation, which is seen to be due to the studding of the whole parenchyma, with nodules of a grayish colour averaging 1 to 2 mm. in diameter; the parenchyma between these is of a bright red colour in the upper lobes and of a darker red in the lower lobes; the bronchial mucosa is reddened and is covered with a viscid, frothy, reddish mucus. Mucous membrane of trachea reddened; bronchial glands somewhat swollen; no caseous or calcified bronchial glands. Abdomen: amount of subcutaneous fat small; peritoneum smooth and bile-stained, contains 20 ounces of brownish, slightly turbid fluid; tough adhesions between surface of liver and diaphragm. Spleen very much enlarged and hard; capsule tense and thickened in places; a few very small, grayish, translucent bodies on the surface (miliary tubercles); on section, parenchyma is found light red, rather soft, and contains throughout an innumerable number of very minute grayish or grayish-yellow bodies looking like sago grains; a few of these are larger than the rest, have a distinctly yellow colour, and are friable. Kidneys large; capsules strip easily; on surface are seen numerous small, grayish-yellow bodies surrounded by a narrow zone of hyperæmia; on section, cortex and pyramids are hyperæmic, and in both these are seen irregularly distributed a number of bodies similar to those on surface (miliary tubercles). Adrenals

normal. Gall-bladder distended on pressure; a light yellow-brown bile exudes from papilla. Duodenum and stomach show passive hyperæmia, and there is an excess of mucus. Intestines contain light yellow fæces; intestinal veins distended. Liver projects below costal margin in right mammary line; surface slightly roughened; anterior border rounded; general colour of liver a dull yellow; on section, is very firm and has an elastic feel; the cut surface is generally smooth and of a dull yellow colour; in a few places small islands of a brownish-yellow colour are seen raised above the surrounding surface, and it is only in these situations that the lobules can be made out; there is no special thickening about the portal sheaths; portal and splenic veins moderately dilated. Bladder, rectum and testicles normal.

Addenda.—Sections of the liver show that there was a general cirrhosis of the organ; the outline of the lobules was everywhere obliterated. The new formation of connective tissue extended throughout the whole of the lobules, passing between groups of hepatic cells and also between individual cells, isolating them one from another. Besides fully formed connective tissue there were, here and there, collections of small-celled granulation tissue, staining deeply with hæmatoxylin. The hepatic cells themselves were atrophied. Many showed fatty degeneration, and they were stained very faintly by reagents. Definite miliary tubercles were observed scattered through the sections, a few containing giant cells, and being necrotic at their centres. Others appeared simply as small circumscribed masses of lymphoid cells. Around the portal vessels there was a more diffuse infiltration, also composed of small lymphoid cells. Here and there in the portal sheaths, which were not especially thickened, there appeared to be a new formation of bile ducts. The sections were not examined for tubercle bacilli.

Liver weighed 3200 grammes.

Spleen weighed 2080 grammes.

Prof. Ruttan made the following analysis of two samples of chylous urine passed Oct. 13th and 14th, 1891 :—

SAMPLE I.—OCT. 13TH.

The reaction of the urine was acid, colour milky, opaque, with shade of yellow ; no sediment ; specific gravity 1026. Triplicate analysis of urine gave the following results :—

	<i>First.</i>	<i>Second.</i>	<i>Third.</i>	<i>Average.</i>
Water	92.75 p.c.	92.74 p.c.	92.73 p.c.	92.74 p.c.
Total Solids at 100° C. . .	7.25 "	7.26 "	7.27 "	7.26 "
Fat.....	1.66 "	1.65 "	1.64 "	1.64 "
Solids other than Fat . . .	5.59 "	5.61 "	5.63 "	5.61 "
Albumen	0.36 "	0.37 "	0.36 "	0.36 "
Urea	1.45 "	1.43 "	1.45 "	1.44 "

Fibrin None.

Blood and Blood-pigments None.

Chlorides (as Sodium Chlorides) 2.11 per cent.

Sulphates (as Sulphuric Acid) 0.25 "

Phosphates (as Phosphoric Acid) 0.28 "

Uric Acid..... 0.006

SAMPLE II—(PARTIAL ANALYSIS).—OCT. 14TH.

Water.....	92.97 per cent.
Total Solids at 100° C. . .	7.03 "
Fat	1.32 "
Solids other than Fat.....	5.71 "
Albumen	.42 "
Urea	1.39 "
Specific Gravity	1028

The urine was less opaque than on the 13th, but still chylous.

Prof. Ruttan says :—

“The remarkable points about this urine are the absence of blood, the absence of fibrin and coagula, and the high percentage of albumen. The albuminuria persisted after the fat disappeared from the urine, and was also observed before the attack of chyluria. The analysis did not indicate the presence of any abnormal constituent except albumen and fat. The fat, microscopically, was very finely divided, and floated in a creamy layer when the urine was allowed to stand. Post-mortem, nothing

was found to explain this sudden appearance of fat in the urine and its equally sudden disappearance. Chemically, the urine may be described as an albuminous urine carrying finely emulsified fats."

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

By FRANÇOIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.

Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

SURGERY OF THE LIVER.—*Treatment of Hepatic Abscess.*—Dr. Neil MacLeod of Shanghai advocates an operation for abscess of the liver which he says offers the following advantages (*Brit. Med. Jour.*, Dec. 26, 1891): (1) Before emptying the abscess we have a means of estimating the size and position of the cavity and so determining the best site for opening and drainage. (2) There is no hemorrhage. (3) Certainty of free drainage and better fixation of the liver than by a rubber drainage tube. (4) No necessity for excision of a portion of a rib, and (5) rapid, certain, easy introduction of the tube in any position both at time of operation and at subsequent dressings.

Operation.—Instruments, skin, etc., being rendered aseptic, an aspirating trocar and cannula are passed preferably at a point chosen where dulness is absolute, and where there may have been stitch-like pain felt or friction heard. If in a case there has been no such pain or friction, the first step in the operation might be abdominal incision to search for adhesions or to examine by sight the liver surface for evidence of multiple abscesses, if these be suspected. If pus be found on aspiration, a knitting-needle is then introduced through the cannula into the abscess and tilted forwards, upwards, backwards and downwards, and measurements made of how far the needle can be passed in these various directions, will determine if the point of exploration be fairly opposite the centre of the cavity. If it be otherwise, another point is chosen from the data thus afforded, and the process is repeated. When a satisfactory point is thus obtained, a large trocar and cannula is introduced, the trocar is replaced by a director, and

the cannula withdrawn. A single vertical incision about an inch in length is then made through the superficial structures, a Lister's drainage forceps passed down the groove of the director into the abscess, and its blades opened and then withdrawn. Through the opening thus made the drainage tube, with the guiding tube in its interior, is slipped into the abscess on the director, which is then withdrawn along with the guiding tube. The tube is kept in place with a safety pin. After the pus has ceased to flow, a dressing is applied. The drainage-tube used is nickel-plated and oval in shape to fit in between the ribs of different diameters and lengths, and the guiding tube is longer than the drainage tube and has a conical end; it is made to fit accurately the drainage tube, and open enough to slip over the previously introduced grooved director, as the director fits into the cannula. Dr. MacLeod scouts at the idea of sewing the liver to the abdominal wound in cases of acute hepatic abscess. A number of cases are cited, treated by Dr. MacLeod's method with the best results. He believes every case of liver abscess, if opened early, kept aseptic, and drained thoroughly, should recover.

Dr. Patrick Manson (*Brit. Med. Jour.*, Jan. 23, 1892) gives an elaborate method for evacuating pus in abscess of liver. The principle is draining by a siphon arrangement, the abscess being perforated by a trocar and cannula, the trocar withdrawn, and a rubber tube fitted over the end, which drains into a wide-mouthed bottle. The method and apparatus, however, is so complicated that it is never destined to replace simpler methods already in use.

Surgery of the Gall-Bladder.—Dr. Robert Abbé reported to the New York Surgical Society, Oct. 14, 1891, four very interesting cases of gall-bladder surgery (*N.Y. Med. Journal*, Jan. 30, 1892), in two of which he removed the gall bladder; in one he performed cholecystotomy and immediate suture of the gall-bladder. All recovered perfectly. In one case the gall-bladder was so thick that it resembled malignant disease, and its true nature was not discovered until some time afterwards, when it disappeared rapidly as the patient recovered her health. A fistulous opening remained, which closed after removal of a small

attacks of pain and digestive disturbances often depend on old adhesions, bands, etc., on and about the gall-bladder. In 36 abdominal sections for diseases of the gall-bladder and gall-ducts he has found no fewer than 15 cases of adhesions, of which nine existed between these organs and the omentum, four with the bowel, and two with the abdominal wall. He does not think these adhesions are necessarily connected with severe inflammatory processes, but may be produced by a catarrh of the gall-bladder with or without the existence of calculi. He advocates a more frequent employment of laparotomy in cases of obscure abdominal disease, believing that many of them are due to bands and adhesions, and that relief can often be obtained out of all proportion to the apparent cause by relieving these attachments. The writer had lately a case in point where there was a chronic interstitial inflammation of the lacing lobe of the liver in the female, attended by severe pain, some elevation of temperature, and other constitutional symptoms. An exploratory operation discovered a piece of omentum attached to the upper surface of the liver. This was separated, and as nothing else could be found, the wound was closed. After the operation the pain was all relieved, and the patient has ever since had a normal temperature and is now doing her daily work as a nurse in a general hospital.

Dr. W. H. White reports (*Brit. Med. Jour.*, Jan. 30, 1892) cases of jaundice due to aneurysm of the hepatic artery and to movable kidney. In the latter case the patient had a movable kidney which could be felt below the liver. During the period the kidney was movable the patient had frequent attacks of jaundice and bile in urine. After operation for fixation of the kidney the attacks of jaundice ceased and urine never contained bile.

The writer operated in a case last summer where a globular tumour could be felt below the liver in neighbourhood of gall-bladder. There were frequent attacks of severe pain and a history of jaundice. Exploratory operation revealed a floating kidney and a healthy gall-bladder. The operation succeeded in relieving all the symptoms, however.

Mr. Thos. Chavasse, in a lecture recently published (*Lancet*, March 12th, 1892), describes a successful case of *Cholecystocolotomy*. The patient, a painter by trade, was aged 47, and underwent the operation of cholecystotomy on March 25th, 1891. A number of gall-stones were removed from the gall-bladder and one from the common duct. The wound healed well, but a small sinus was left at the lower end of the incision. The sinus persisting, and discharging large quantities of bile, an eczematous condition of the skin resulted, and so much discomfort was caused that the patient could not perform his work and came back to hospital requesting further relief. The man, although bile had been escaping for several months through the fistula, was in good health, well nourished, and had a good appetite. His stools were regular, but colourless, and very offensive. On Oct. 24th an operation was undertaken to close the fistula. An abdominal incision was made and the gall-bladder separated freely from its adhesions. The common bile duct could be felt like a thickened cord, but no stone could be detected. As the bile-duct was probably occluded, the result of inflammatory changes, it was decided to connect the gall-bladder with the intestines, so an anastomosis by means of Senn's plates was established between the hepatic flexure of the colon and the gall-bladder: the old fistula in the gall-bladder was then freshened and closed with continuous catgut sutures, the abdominal wound sutured, and a glass drainage-tube introduced at its lower end. A fæcal fistula resulted for some time, through which fæces and bile were discharged, but this became smaller and smaller, and by the end of November had closed entirely and the patient has since been in perfect health.

Hydatid Cysts of the Liver.—Maynard (*Languedoc Médical*, No. 6, 1891) reviews the different methods of treatment of hydatid cysts. He advises, in old cases, incision and excision of the cysts by laparotomy in preference to the old method of tapping. He prefers the median incision. All the vesicles should be removed and the cavity flushed out. The biliary oozing and filtration from the wound is lessened by the use of astringent lotions.

Intestinal Anastomosis.—Dr. Robt. Abbé, at the meeting of the surgical section of the New York Academy of Medicine, read a paper on his recent experiences with intestinal anastomosis (*N.Y. Med. Jour.*, Jan. 30, 1892). He comes to the conclusion that all plates devised for this operation, whatever their construction or substance, were objectionable for one reason or another, and, after considerable experience, he was of opinion that better results could be obtained without them, the intestinal openings being carefully apposed and secured to each other by sutures, and a double row of sutures being passed entirely around the portions which were brought in contact with each other. The intestinal openings should be four inches long; they might contract to half this length in six months, but they would be less likely to contract unduly if sutures alone were used than if dependence were placed on intestinal plates. He was not satisfied that experiments in anastomosis in dogs could be depended upon as analogous to the work which was required upon human intestines.

Dr. Abbé's method of operating for lateral anastomosis is as follows (*N.Y. Medical Journal*, April 2, 1892): "Bring the two surfaces that it is proposed to unite well up in the wound and surround them by small compresses of gauze, towels or flat sponges wrung out of hot water. Have at hand half a dozen fine cambric needles threaded with ordinary finest black embroidery silk which has been well boiled and kept in alcohol. Cut in lengths of not more than 24 inches, and tie with a single knot at the eye of the needle with one end out to within two inches. Apply two parallel rows of continuous Lembert's sutures a quarter of an inch apart and an inch longer than the proposed cut. Leave each thread with needle attached at the end of its row. Now open the bowel by scissors, cutting a quarter of an inch from the sutures, both rows of which are to remain on one side of the cut; make the bowel opening four inches long. Apply clamps temporarily to several bleeding points, pinching the entire thickness of the cut edge without hesitation. Apply no ligatures. Treat the apposing bowel in the same manner. The clamps remaining *in situ*, the parts are quickly rinsed with water. Another silk suture is now started at one corner of the

openings and unites by a quick over-hand suture the two cut edges lying next the first rows of sutures. The needle pierces both mucous and serous coats, and this secures the bleeding vessels, from which the clamps are removed as the needle reaches them. This suturing is then continued around each free edge in turns, and all bleeding points are thus secured more rapidly than by ligature. The serous surfaces around these button-holes are then rapidly secured by a continuation of the sutures first applied, the same threads being used, the one nearest the cut edge first. The united parts are again rinsed with water and dropped back into the abdomen." This description, which appears to be somewhat complicated, is made plain by the excellent illustrations with which the article is furnished.

Operative Treatment for Dilatation of the Stomach.—Bircher, who has devised an operation for the cure of this affection, describes his operation as follows, giving illustrative cases. (*Correspondenzblatt für Schweizer Aertze*, Jahr. xxi, No. 23.) He says the operation is more applicable to atrophic dilatation than hypertrophic: "An incision 15 cm. long is made parallel with the border of the ribs on the left side, the stomach drawn out, a fold made in it large enough to reduce it to normal size, the greater curvature being sutured nearly on a line with the lesser. The fold is sewed throughout its entire length with silk sutures, the fold hanging within the stomach from its upper inner surface throughout its entire length, thus reducing the size of the stomach by raising its lower border and making it possible for it to entirely empty itself; in this way the mechanical pressure which before prevented complete cure is removed. Where the stomach is very long, the fold is made at right angles to its long axis. Bircher believes the operation to be harmless and effective, because it puts the stomach in a mechanical condition to be cured by other treatment. The serous covering only is sutured, and silk should be used. Four cases are related treated by this method; all recovered."—(Quoted in *American Jour. of Med. Sciences*, March, 1892.)

Radical Cure of Reducible Hernia in the Female.—Lucas-Championnière (*Rev. de Chir.*, Dec. 1891) advocates the more frequent performance of operations for the cure of reducible

hernia in women. Hernia is more painful, and the wearing of a truss is more inconvenient than in men. He says reducible hernia in every young and healthy female subject ought to be operated on without exception in order that the accidents of hernia may be prevented and the patient be enabled to avoid the inconvenience of wearing a truss. The author has operated on 39 cases without a single bad result; of these 11 were umbilical, 11 crural, and the remaining 17 inguinal. The last named is always the most painful in women, and always connected more or less directly with the uterine appendages by means of the round ligament, which forms part of the wall of the sac. The author removes this structure together with the sac, so as to secure complete closure of the orifice. The most difficult hernia to deal with is crural. [We question the wisdom of operating in every case of hernia in women, and cannot see why the rules regarding the treatment of hernia in women should differ from those followed in men; 39 cases is too small a number from which to draw such sweeping conclusions]

Alcohol Injections in Hernia.—Hink reports (*Wien. Med. Blatter*, No. 48, 1891) 14 cases of reducible inguinal hernia under the care of Prof. Weinlechner, which were treated by repeated injections of alcohol. This method of injection, first recommended by Schwalbe, causes chronic inflammation of the surrounding soft parts and consequent induration. By frequently repeated injections of alcohol and distilled water, the proportion of the former increasing with the duration of the treatment from 20 to 70 per cent., inflammatory action is set up about the neck of the sac which is followed by adhesions and retraction of the soft parts. In this way a radical cure is effected. The injections have to be repeated very frequently; in one case the treatment lasted seven months and 109 injections were given. In all but two cases the results were satisfactory, but all the observations were made before the patients left hospital. In one case injection was followed by alarming hemorrhage, and in others by inflammation of the epididymis and suppuration.

Treatment of hernia by injection has been extensively practised on this side of the Atlantic by Heaton and others, and the injection used was the fluid extract of oak bark. The method

has been investigated by Bull of New York, and the conclusion come to was that it was only suited to small reducible herniæ, and that it was by no means a lasting cure ; also, it was not without danger.

Excision of the Ileo-Cæcal Valve for Carcinoma.—Sir Wm. MacCormac (*Lancet*, Feb. 6th, 1892) reports a case operated on in St. Thomas's Hospital for malignant disease of the ileo-cæcal valve. The patient was a blacksmith, aged 36 ; suffered from attacks of severe pain, with diarrhœa and discharge of blood from the rectum. A lump could be felt in the right inguinal region, which was tender on pressure. In last four months patient had lost 14 pounds. The abdomen was opened by Mr. Sydney Jones and a papillomatous growth of the ileo-cæcal valve found, which was subsequently examined and pronounced to be carcinoma. The cæcum with adjoining parts of large and small intestines were resected, and a V-shaped piece of mesentery and the upper ends of intestine were attached to the abdominal wound to form an artificial anus. The man rallied well from the operation, but owing to the great annoyance of the fæcal discharge it was decided to restore the lumen of the bowel. This was done by Sir Wm. MacCormac. The two ends of the intestines were freed and Senn's rubber ring used to invaginate the small intestine with the large, but this did not succeed very well, so Lembert's sutures were used. The patient did very well, but on the sixth day there was fæces on the dressing and a fistula remained, which was subsequently closed by a plastic operation. Eight months after operation the man was doing his daily work as a blacksmith without any inconvenience or sign of return.

Suggestion for Treatment of Irreducible Intussusception of the Bowels.—Mr. Arthur Barker recommends the following operation in cases of irreducible intussusception of the bowels. (*Lancet*, Jan. 9th, 1892.) Given a case of intussusceptum which cannot be reached from below, and which, on opening the abdomen, is found to be so tightly strangulated that reduction, even if feasible, could only end in disaster, then instead of forming an artificial anus on the one hand, or resecting the whole mass of damaged bowel directly and suturing the divided ends, Mr. Barker proceeds as follows : " At the point at which the intus-

intussusciens receives the intussusceptum, the two portions of the bowel are at once united by continuous circular suture of fine silk, taking up the serous and muscular coats of each and carried on to the mesentery. A longitudinal incision is then made for about two inches through all the coats of the intussusciens on its free margin. This gives access to the sausage-like intussusceptum. The latter is then drawn out through this incision and is cut across close to its upper end; or if too long to be first drawn out, it may be cut across *in situ*. A few stout silk sutures are, however, passed through all the walls of the stump as the mass is gradually cut off, and are tied tightly so as to keep the serous surfaces in contact and control all bleeding from vessels entering it at its mesenteric attachment. The stump is now cleansed, dried and dusted with iodoform, and allowed to drop back through the incision into the lumen of the intussusciens. The longitudinal incision in the latter is closed by a continuous suture from end to end." Mr. Barker reports two cases thus operated upon, in both of which the operation was practically extra-peritoneal. Both cases resulted fatally, but this was due, not to the failure of the operation, but to the fact that it was undertaken too late, and the general condition of the patients was such that operation was of no avail.

Perforation of Gastric Ulcer and its Treatment by Abdominal Section.—Mr. Gilbert Barling reports (*British Medical Journal*, Jan. 9th, 1892) the case of a girl, aged 20, who was admitted to hospital suffering from an acute attack of abdominal pain, which had lasted two days. Had before been under treatment for gastric ulcer. The morning after admission she was in a collapsed condition, abdomen slightly distended and tympanitic, and very tender; abdominal muscles rigid; pulse 126. That evening she began to vomit green bilious fluid and became more collapsed. Next morning all these symptoms were exaggerated, and she was evidently suffering from peritonitis, so abdominal section was decided on. The abdomen was opened above the umbilicus, and the lower margin of stomach and upper portion of the transverse colon exposed; a further examination discovered a collection of semi-purulent fluid between the right lobe of the liver and the stomach. This being cleared away an

ulcer with indurated margins was felt about the middle of the anterior surface of the stomach. With difficulty the stomach was drawn down and the perforation exposed; it was found to be circular, and about half an inch in diameter. The opening was closed with five Lembert's silk sutures; the abdominal cavity was then flushed out with hot water, a drainage tube introduced between liver and stomach, and the wound closed. The peritonitis continued, however, and the patient died thirty hours after operation. At the autopsy there was general peritonitis, and a second ulcer, almost perforating, was found on the posterior wall of the stomach. Mr. Barling advocates early operation in these cases, and thinks success will follow. Where a widely spread peritonitis exists, he recommends a second opening immediately above the pubis for purposes of drainage.

Maydl's Method of Performing Sigmoidostomy.—This method is described by Mr. F. Marsh of Birmingham (*Brit. Med. Jour.*, Feb. 6th, 1892). The sigmoid flexure is drawn out until the meso-colon is seen; a rigid rod (preferably of glass) is then pushed through this and rests on the abdominal walls; the sides of the bowel are then sutured to each other below the rod. If it be necessary to complete the operation at once, the bowel is sutured to the edges of the wound and a transverse opening made. If there is no necessity to complete it in one stage, the bowel is not sutured to the edges of the wound, but simply left from four to six days, and then opened with a thermo-cautery and the edges of the mucous membrane sutured to the skin.

Reclus (*Bull. et Mém. de la Soc. de Chirurgie de Paris*, Feb. 1890) has a modification of this method; he simply passes a rigid aseptic rod through the mesocolon, omits all sutures, opens the bowel about the fourth day, and about the tenth day removes superfluous bowel with thermo-cautery.

Mr. Marsh makes a two-inch incision through the abdominal wall instead of a two and a half inch one; he uses a glass rod with flat ends. He opens the bowel on the third day with a transverse incision by means of the thermo-cautery, and at the end of a week removes superfluous bowel with the thermo-cautery and burns through the remaining circumference of the bowel over the glass rod, so that the latter may be lifted out. A double-

barrelled opening is thus left, the openings diverging instead of converging, so that it is impossible for any fæces to pass onwards. This is a great simplification of the old inguinal colotomy, and one which gives a much better artificial anus, because it is situated in muscular tissue and provides a perfect spur, which prevents fæces getting into the lower bowel.

In an address on the *Surgery of the Tongue*, read before the Liverpool Medical Institution, Mr. Jonathan Hutchinson (*Brit. Med. Jour.*, Dec. 5th and 12th, 1891) says that from the date of the introduction of the *écraseur* to the present time we have to record steady progress in reference to operations on the tongue, and experience has proved that it is by no means necessary to excise the whole organ where the disease is confined to only one part, for wide infiltration of adjacent tissues is not common; on the other hand, however, infection of more or less distant lymphatic glands may be produced by ulcers of insignificant size and of the briefest duration. We now know that the risk of gland infection begins almost from the very day the sore assumes suspicious features. In Mr. Hutchinson's whole experience of tongue surgery he has had four cases only where the disease returned in the tongue itself. In three-fourths of his cases the disease recurred in the lymphatic glands, and in very few cases where the glands are enlarged will the surgeon be able to operate upon them with much chance of success; and although Mr. H. removed the glands in every case where enlarged, in very few cases has it been followed by protracted immunity. The glands chiefly affected are those of the floor of the mouth and under the anterior edge of the steno-mastoid muscle. The worst position for a gland to enlarge is in the back of the neck, behind the mastoid process and upper part of the steno-mastoid muscle. Mr. Hutchinson still holds to the *écraseur* in excising the tongue, and says it is better than any other method of removing that organ. The wounds made by the *écraseur* heal well and do not poison the lungs. He has given up the chain and uses an ordinary screw *écraseur* armed with a loop of well tempered wire. He works the instrument very slowly, and rarely has any hemorrhage; he prefers, however, to tie the linguals after division. The after-treatment is

simple ; a tube is used for feeding, and is placed well back in the throat. The patient is encouraged to leave his bed on the day after operation, and is made to rinse his mouth out frequently with a mixture of a tablespoonful of spirits in a tumbler of water. In all Mr. Hutchinson's experience in private practice he has only lost one case after excision of the tongue, and this he attributes to the fact that he has operated very early in his cases, many having been sent him for supposed syphilitic disease. And one cause of his great success he thinks is due to the fact that all his operations with the *écraseur* are bloodless. Many of those who are the subjects of cancer of the tongue are old and debilitated, to whom any material loss of blood is a matter of serious moment. The author holds that it is the hemorrhage at the time of operation and not the condition of the wound subsequently which is the source of danger. Mr. H. has come to regard excision of the tongue as a procedure which does not involve any risk to life.

Insidious Marrow Lesions of Mammary Carcinoma.—In an interesting article Dr. Herbert Snow (*Brit. Medical Journal*, March 12th, 1892,) describes cases of mammary cancer followed by insidious lesions of the marrow of bones. These cases are characterized by wearing rheumatic pains in the muscles and bones, often disturbing the sleep at night. It differs from true rheumatism in not specially affecting the articulations, and it resembles it in being often alleviated by salicylates internally. The chief localities where pain is complained of are the loins, the shoulder, and upper arm down to the elbow on the same side as the disease and the adjoining scapula. With this the patient appears often to suffer from a general sense of debility and overwhelming lassitude, is often confined to bed, becomes sallow, and her health unmistakably deteriorates. The symptoms Dr. Snow has not observed in connection with any other form of malignant disease but breast cancer. He says that besides these subjective symptoms there are others that are objective, the most conspicuous of which is the "sternal symptom." At the junction of the manubrium with the gladiolus some exaggeration of the slight prominence there naturally existing is found ; this protuberance grows slowly but surely, and finally cannot be easily mis-

taken. There is no pain felt here, but occasionally there is tenderness on pressure. Again, the upper epiphysial end of the humerus on the same side as the affected breast feels thicker than its fellow, and is also tender on firm pressure. Deeply seated gnawing pain is nearly always present, and is remittent in character. The malignant affection is by no means limited to the bones mentioned, but eventually becomes more or less general throughout the whole osseous system. The severe back-ache is due to malignant cells in the lumbar vertebræ. The marrow of bone when extensively infiltrated becomes opaque, white, its ordinarily delicate adipose reticulum is replaced by tough fibrous-looking tissue, which shows the characteristic acini of scirrhus cancer. As a rule this marrow infection slowly and insidiously saps the springs of life in two ways—(a) by the facilities which it affords to the passage of cancer cells into the general circulation and then deposits in the viscera; (b) by its interference with the process of red corpuscle manufacture, which is the most important function of marrow. In a note to his paper Dr. Snow says that he is able to give a satisfactory explanation of the mechanism whereby the two physical signs referred to take their origin; in both the lymphatic system is the agency concerned. In a case of well marked sternal prominence he has found the degenerate thymus gland, full of cancerous acini, adherent to the bone, and thus producing direct infiltration; thus the greater part of the sternum may be decalcified. The humerus becomes infected by the regurgitation of lymph currents secondary to the block following carcinoma deposit in the subclavian and deep axillary glands.

Surgery of the Spine.—Dr. J. W. White, in speaking on the above subject (*Therapeutic Gazette*, Oct., 1891), says that in spina bifida, injection of the sac offers the best prospect of ultimate recovery with least immediate danger. In Potts' disease of the spine, the paralysis is not usually due to transverse myelitis, hopeless degeneration, or the pressure of carious and diseased bone, but is the result in most cases of external pachymeningitis. In cases in which ordinary treatment has failed, or in those in which the disease is progressing to an unfavourable termination, resection is justifiable. Every case of local spinal lesion thought

to be a tumour, and not distinctly malignant and generalized disease, should be regarded as amenable to operative treatment, no matter how marked or how long continued the symptoms of pressure may have been. The results of recent operative interference in well selected cases of fracture of the spine are encouraging, and should lead to more frequent employment of resection of the posterior arches and laminae : (a) In all cases in which depression of those portions, either from fracture or dislocation, is obvious ; (b) in some cases in which after fracture rapidly progressive degenerative changes manifest themselves ; (c) in all cases in which there is compression of the cauda equina from any cause, whether from anterior or posterior fracture or from cicatricial tissue ; (d) in the presence of characteristic symptoms of spinal hæmorrhage, whether within or without the membranes. An operation is contraindicated by a history of such severe crushing forces as would be likely to cause disorganization of the cord.

Trephining the Spinal Column in Gunshot Wound of the Spinal Canal.—At a meeting of the Paris Surgical Society, Nov. 18, 1891, M. Nicaise, on behalf of M. Vincent of Algiers, presented a communication (*La Sem. Méd.*, Nov. 25, 1891) on gunshot wounds of the spinal cord and the treatment of them by trephining. He classifies the lesions as follows : (1) Simple compression of the cord by effused blood or fragments of projectile. (2) Contusion or laceration of the cord caused by the bullet. (3) Lodgment of the bullet in the vertebral column with or without projection into the canal. M. Vincent advocates operative interference in such cases, and reports eight cases with five cures and three deaths. He considers the cases that come under the first section most favourable for operation, and relates in illustration the case of a man, æt. 31, who was struck by a bullet in the lumbar region. Two days later there were signs of marked compression of the cord. M. Vincent cut down and found a fractured lamina ; he trephined, and introducing his finger into the canal, found the cord free from compression. The bullet could not be found, so the wound was closed. There were symptoms of meningo-myelitis, but they quickly passed off, and in three weeks the man was able to walk. The two follow-

ing cases were also narrated: (1) A lad, æt. 18, was struck by a revolver bullet in the dorsal region; this was followed by symptoms of bruising of the cord. The spinal cord was trephined on the third day and the bullet extracted. Death occurred eight days later, when it was found that the cord had been completely crushed. (2) A man, æt. 37, was shot in the back on a level with the 10th dorsal vertebra; complete paraplegia followed. The bullet, with a splinter of bone, was removed. After a period of improvement the patient died on the 94th day.

Trephining for Fractured Spine.—Andry of Lyons reports (*Lyon Méd*, Nov. 1st, 1891) a case of fracture of the cervical portion of the spine, in which the posterior arches of the 5th and 6th vertebræ were removed with a fatal result. There was no displacement of the fragments, and the fracture was subperiosteal. After removing the whole of the arch of the 5th vertebra, the cord was found to be violently compressed between the upper edge of the posterior arch of the 6th vertebra and a displaced fragment of the fractured body of the 5th. This compression was relieved by removing the posterior arch of the 6th vertebra. The dura mater was not incised. The operation lasted an hour and the patient took chloroform. The patient died twelve hours after, and at the post-mortem the compressed portion of the spinal cord was almost converted into a blood-stained semi-fluid mass, only a small portion of the posterior column at this level remaining intact.

Successful Treatment of Suppurative Phlebitis of the Internal Jugular and Lateral Sinus.—Parker has recorded a case (*Liverpool Med.-Chir. Jour.*, No. 22) of a man, 25 years old, who for eleven years following an injury in the region of the left ear presented symptoms of suppurative otitis media with perforation of the membrana tympani. Symptoms of suppurative phlebitis of the left lateral sinus and internal jugular vein, with double optic neuritis, developing, an incision was made in the mastoid and infra-auricular regions, and the mastoid process was opened. A clot was found in the facial and jugular veins, extending into the lateral sinus, which was occupied by greenish purulent lymph. Ligatures were applied to the veins on either side of the thrombi and the intervening portions excised. The

lateral sinus was partially scraped. Hemorrhage was controlled by a plug of antiseptic wax. The symptoms disappeared for two days after the operation, then the temperature rose to 103°. The wax plug with some accumulated pus was removed from the sinus, and the mastoid cells were irrigated. For nearly a week the temperature continued to oscillate between high figures, but finally subsided, and the case ultimately progressed to a favourable termination.—(Quoted in *Medical News*, Feb. 27, '92.)

New Operations on the Prostate and Bladder.—Kuster (*Archiv für Klin. Chir.*, Bd. I, 42) discusses the operation of lateral prostatectomy and total extirpation of prostate and bladder. Lateral prostatectomy was first recommended by Prof. Dittel; he held that the lateral lobes were the ones usually involved, and advised exposing the prostate by a perineal incision to the left of the anus and excision of as much as possible. The author performed this operation on a man, aged 64, with enlarged prostate. Two pieces the size of chesnuts were removed, the urethra not being wounded. Tamponing with iodoform gauze with secondary suture two days later. This case voided his urine without trouble and was completely cured. Other less favourable cases are reported. Küster thinks the operation less dangerous than suprapubic cystotomy for removal of portions of prostate, and says the conditions are either relieved or the patient cured.

Küster also reports a case of total extirpation of bladder and prostate in a man, aged 53, with carcinoma. The upper edge of the symphysis pubis was chiselled off and the bladder opened above pubis for inspection of growth; it was then sewed up and a perineal incision made. The bladder was then freed, and afterwards the ureters secured and inserted into an opening made in the rectum. The wound was packed with iodoform gauze. The operation took two hours and the patient rallied, but died five days later of intercurrent pneumonia.

Stein, who has collected cases of this kind, reports three operations for malignant growths, in which the bladder and prostate were extirpated; two died soon after operation, and one lived nine months.—(Quoted in *Univ. Med. Mag.*, March, '93.)

Reviews and Notices of Books.

The Principles and Practice of Medicine. Designed for the use of Practitioners and Students of Medicine. By WILLIAM OSLER, M.D., F.R.C.P. Lond., Professor of Medicine in the Johns Hopkins University and Physician-in-Chief to the Johns Hopkins Hospital, &c. &c. New York: D. Appleton & Co. Canada Agency: 170 Yonge Street, Toronto, Ont.

Text-books of Practice of Medicine appear to follow each other pretty rapidly, but certainly none too rapidly, if we consider the rate at which medical science is progressing. The advanced book of five years ago is already obsolete, and contains, perhaps, only a bare allusion to some subject which now has been thoroughly worked out and has assumed a prominent place in medical teaching. This being the case, it is of importance that those whose experience and whose opportunities fit them for the task should with sufficient frequency put together their views on modern medicine generally and give them to us in a work like the present.

The author needs no introduction to the Canadian profession. From his earliest professional days he was always found busy in scientific medical work, and our records are full of communications from him, both monographs and papers to societies. His keen and earnest pathological work in this city is well known, and how well this has served him will be remarked from the frequent references to cases occurring in the Montreal General Hospital.

We have gone carefully through a number of the important sections of the book, and the conclusion we have come to is that it is a model of its kind. Dr. Osler possesses the rare gift of taking in a large subject, assimilating it, and then giving back the result in a well-digested form, in clear, concise language. This is what gives the book its value. Great subjects are handled in a masterly manner, the results of our present knowledge are presented in a fair, firm, and judicial, but not dogmatic manner. Every part bears the impress of careful and thoughtful preparation, and equally exhibits views of the most modern school. There is no slavish following of previous authori-

ties, but, on the contrary, the individuality of the author is plainly visible throughout, whilst at the same time frequent references give credit to fellow-workers in all departments. Illustrations are few, but are not missed. What is much more important, the author's very large and exceptionable experience enables him to quote everywhere illustrative cases from his private and public records, which are of great value.

We have had great pleasure in examining Professor Osler's "magnum opus," which has quite come up to our great expectations of it, and we cannot too highly recommend it to our friends—doctors and students alike.

The Dog in Health and in Disease : Including his Origin, History, Varieties, Breeding, Education and General Management in Health, and his Treatment in Disease. By WELLEY MILLS, M.A., M.D., D.V.S., &c., Professor of Physiology in the Faculty of Human Medicine and in the Faculty of Comparative Medicine and Veterinary Science, McGill University, Montreal; Lecturer on Cynology in the latter Faculty; author of *Animal Physiology, Comparative Physiology, &c.* With 38 full-page cuts, one coloured plate, and numerous other illustrations. New York: D. Appleton & Co. Montreal: Wm. Drysdale & Co. 1892.

Professor Mills' work on the dog is likely to become a classic volume, not only with veterinary surgeons, but with all those who are fond of dogs. The treatise is one which entirely differs from any that has hitherto appeared. It is, first of all, the production of a writer who has distinguished himself as a physiologist, and who brings this knowledge to bear in his descriptions of the dog, his diseases and their treatment. All previous works on the dog with which we are acquainted are the work of the so-called practical men—a very misleading title not only in this connection, but in all directions relating to disease and its treatment. As specialism has not as yet gained a foothold in comparative medicine, the diseases of the dog are treated by veterinary surgeons whose training has been almost entirely directed to the horse and other herbivora. The same general principles no doubt applies to all animals from man downwards, but a per-

usal of Prof. Mills' work will prove to any one how necessary it is to study the individual animal in health before we can thoroughly understand his state in disease.

About one half of the volume is taken up with a description of the varieties, breeding, education and general management of the dog, the remainder being devoted to his diseases and their treatment. In this latter part the author brings to bear his general physiological and pathological knowledge as well as an intimate acquaintance with the diseases of the animal, a knowledge acquired by conducting the free dog clinic of the Veterinary Faculty. The volume is profusely and beautifully illustrated, and reflects great credit on the enterprising publishers.

Transactions of the American Ophthalmological Society. Twenty-seventh Annual Meeting, Washington, 1891. Hartford: Published by the Society.

The twenty-seventh report of the American Ophthalmological Society is to hand, and contains material of much interest both to the specialist and general practitioner. After obituary notices of Dr. Abram Dubois of New York city and Dr. G. R. Cutter of Brooklyn, the papers submitted to the Society at their annual meeting are detailed.

Dr. Hasket Derby of Boston deals with macular changes as influencing the prognosis in advancing myopia, and advances the already known supposition that detachment of the retina in these cases is very unusual, the inflammatory changes as it were binding the retina to the choroid and likely preventing detachment. He considers the prognosis of central vision very bad, no treatment tending to improve it.

De Schweinitz of Philadelphia recounts some very interesting experiments on dogs to determine the lesion in quinine blindness. He found that the hypodermic injection of one to four grains to the pound weight of the dog produced blindness in three to fourteen hours. Quin. bimur. carbamidat. was more rapid and certain in its action than the bisulphate. The results showed that the prolonged action of quinine produced atrophy of the

optic nerve ; also, that thrombosis of the vessels of the optic nerve occurs. Lastly, that any degeneration of the brain cells is due to the hardening process in the microscopical preparation. As to the microscopical changes, there is thickening, likely an endovasculitis of the walls of the central vessels of the nerve ; also, organization of a clot, the result of thrombosis ; widening of the infundibulum of the vessels, the result of constriction of the surrounding nerve tissue, presenting an appearance not unlike glaucomatous cupping ; and finally, practically complete atrophy of the visual path, including the optic nerve, chiasm and tract as far as they could be traced. The action of quinine would then appear likely to be upon the vaso-motor centres, primarily producing constriction of the vessels ; finally changes in the vessel walls themselves occur, likely of the nature of an endovasculitis ; thrombosis may occur, and the result of all these is an extensive atrophy of the visual tract.

Dr. Charles Stedman Bull of New York gives the results of five cases in which he followed out Schoeler's treatment for the cure of detached retina, viz., the intraocular injection of tincture of iodine. None of the results were satisfactory,—a temporary improvement occurring in some, to be followed by a relapse, in others fresh fibrous bands were formed in the vitreous, and in two panophthalmitis was set up.

Dr. Bull also reports a case of tumour of the anterior part of the brain, attended with the usual general symptoms of a gross cerebral lesion and hemianæsthesia. The description of the latter symptom is so imperfect, and the account of the post-mortem so meagre, that the case is practically worthless as an aid in determining the cortical centres for tactile sensation.

De Schweinitz follows with a case of neuroma of the right upper eyelid's temporal region, and mentions the six most important cases recorded of this disease. The last author also brought up a case of coloboma of the iris, polycoria and primary glaucoma. The eye came to section and the following lesions were found : round-celled infiltration of the anterior part of the cornea ; avulsion of the iris at its extreme root ; atrophy of the ciliary body ; and intimate adhesion of the most anterior ciliary processes to the posterior surface of the cornea at its periphery,

in the region of the ligamentum pectinatum. This bears out Collins' idea that examples of partial and even complete aniridia form no exception to the rule that development of glaucoma is associated with blocking of the filtration area of the cornea.

Holt and St. John record some interesting cases of extraction of foreign bodies from the vitreous and eye-ball. One by St. John is especially interesting, in that he extracted a piece of wire 12 mm. long which had perforated the cornea, iris and lens four weeks before the patient came for treatment, and which had eluded the eye of the family physician who was called in at the time of the accident.

Webster of New York gives a very interesting synopsis of one hundred and thirty-six cases of cataract extraction—twenty cases done according to Graëfe's method with 75 per cent. successes, and one hundred and sixteen of simple extraction with 91 per cent. successes.

Knapp dwells on the occurrence, prevention and management of prolapse of the iris. He holds that the excision of the prolapse leaves shreds in the wound which form a path along which microbes may travel. He, in an *ex cathedra* manner, formulates a set of rules already well known and followed by most oculists. As for the treatment of prolapse when it does occur, he never excises immediately after the second day, but leaves it alone for several weeks, and then, if it does not show a tendency to diminution, but rather to increase or to form a cystic enlargement, he abscises it. In the intervening period Knapp considers operative treatment is very likely to be followed by purulent iritis.

Lippincott of Pittsburg recounts a very interesting series of one hundred cases of cataract extraction in which he practised routine syringing out of cortical matter, only withholding it where vitreous presented. He used a solution of boracic acid two to four grains to the ounce. The losses occurring during the period of performance of the one hundred cases reported amounted to 3 per cent. The vision obtained showed 92 per cent. success.

Dr. Buller read a paper on Glaucoma after Cataract Extraction, illustrating it by three cases. In two he considered that the dense capsule which had been divided rested in contact with

the corresponding filtration region, blocking it, setting up glaucoma, supporting this theory by Collins' observations on the subject published in 1890, in which Collins describes this condition as an almost constant pathological state in eyes which have perished from glaucoma after cataract extraction. In none of Dr. Buller's cases were there adhesions between the capsule and the iris. In the third case he regarded the glaucoma as an irritative condition brought on by over use of the eyes before the filtration region of the eye had recovered from the disturbance which a wound in the immediate vicinity, but not to any extent, through the canal of Schlemm, might readily create.

A highly suggestive article is submitted by Theobald of Baltimore on subnormal accommodative power in young persons a not infrequent cause of asthenopia, in which he holds that it is false to refer so many cases of asthenopia to errors of refraction or deficiencies of the extrinsic muscles of the eye. He details a method of diagnosing this accommodative insufficiency and gives the rule. "Whatever the muscular balance may be in the distance, the vertical diplopia test at 20' ought to show a difference in favour of the internal recti muscles as compared with the test at 13" of at least 3° , oftener of as much as 4° or 5° . When this is not the case, there is subnormal accommodative power. Having discovered the existence of accommodative weakness, Theobald treats it as follows: He ascertains by trial the weakest convex spherical glass which will give at 13" the minimum amount of what he considers normal exophoria (say from 2° to 3°) and prescribes this for systematic use in near vision, if necessary decentering the glasses.

Gruening describes his treatment of constant concomitant divergent strabismus. He divides the externi and passes a thread through the conjunctiva, over both internal recti, in a line with the horizontal meridian of the cornea, and tied over a pledget of cotton wool on the bridge of the nose; this is left for twenty-four hours.

Callan reports two cases of fracture through the orbital foramen, causing optic atrophy.

Heyl's paper on the calibre of the retinal vessels after traumatic injury to the convexity of the brain is well worth perusal.

It is illustrated by twelve cases, and the conclusions he arrives at are as follows :—

1. The observations made in cases presenting the phenomena of delirium or the initial stage to it. In these, the most evident change observed was a rounded condition of the retinal veins ; turbid appearance of vessel ; very slight variation in diameter, at first a slight increase then a decrease back to normal diameter or little less ; the retinal arteries showing a decided decrease in calibre, preceded in the most typical case by a slight dilatation.

2. In the cases presenting the phenomena of *sopor alternans*, no persistent type was recognizable.

Swan Burnett contributes an article on *Heterophoria* and its relation to *Asthenopia*, *Headache* and other nervous symptoms. He favours the operative treatment rather than prismatic.

The last paper is by Wilson of Bridgeport, on the use of *Vaseline* in *Gonorrhoeal Conjunctivitis*.

Consumption : How to Prevent it and How to Live with it. By N. S. DAVIS, Jr., A.M., M.D. Philadelphia and London ; N. S. Davis. 1891.

This little book has grown from a series of hygienic rules which the author has found useful in his practice. Although written in a popular style, it contains many valuable hints on the subject under consideration. The author lays much stress on the prevention of phthisis, in those predisposed to the disease, by the use of fresh air, exercise, and suitable food. The necessity for the destruction of the sputa and the hygienic management of consumption are carefully explained, and form an excellent exposition of the views which are most usually held. A knowledge of such an important subject cannot be too widely disseminated, and we hope the book may have a large circulation.

A Manual of Chemistry. By W. SIMON, Ph.D., M.D. Third edition. Philadelphia : Lea Brothers & Co. 1891.

That a third edition of Prof. Simon's manual should have been demanded is in itself an evidence that it possesses merits greater than those of the student's manuals on chemistry that crowd the shelves of our book stalls. The book is well written, the theory

is clearly expressed, and all experiments carefully described and the shoals and quicksands that prove dangerous to most beginners in experimental chemistry are well mapped out. There is about the whole book an atmosphere that suggests to the reader that the author is not only a chemist, but an experienced teacher of chemistry. The difficulty of conveying distinct ideas of tints and colours is one that every teacher has experienced. The author, to overcome this difficulty, has introduced a feature which seems to be peculiar to his book, viz, a series of colored plates illustrating the different colours and shades of colour of precipitates, solutions, etc., obtained in the usual processes of testing for poisons, acids and metals. Many of these tints are exaggerated and many not typical of the particular substance that is represented, but all are sufficiently near to remind the practical student of what he has seen in the laboratory, and to give to one reading the subject for the first time a much clearer idea of the products of reactions than could be conveyed by words alone. The book is intended chiefly for medical and pharmacy students, and quite properly the author has dwelt more at length on those organic and inorganic compounds which are of therapeutic or physiological interest. Both in theory and in facts the subject matter is well abreast of the time.

Physical Diagnosis. A Guide to Methods of Clinical Investigation. By G. A. GIBSON, M.D., etc., and WM. RUSSELL, M.D. New York: D. Appleton & Co. Montreal: W. Foster Brown & Co. 1891.

This little book deals chiefly with the objective signs of disease, and as such will prove a useful guide to the student. The difficulty of compressing a wide subject into a small work must always prove a matter of difficulty. The task of selection has, however, been judiciously performed, so far as the abdominal and thoracic organs are concerned, and the methods of investigation are well treated. The section devoted to the examination of the eye, although dealing largely with refraction and the ophthalmoscope, makes no reference either to paralysis of the ocular vessels or to the significance of optic neuritis. The hæmoglobinometer of Gowers is described, whilst the much more

convenient instrument of Feischl is not alluded to. Among the micro-parasites of the blood the plasmodium of malaria is not described. Although we have alluded to a few of the important omissions, we can cordially recommend the book as a clear and reliable guide in many of the subjects treated, and it will prove a useful work for junior students commencing the study of physical signs.

First Lines in Midwifery. By G. ERNEST HERMANN, M.B.,
F.R.C.P. Philadelphia; Lea Brothers & Co. 1892.

This little book is intended as "a guide to attendance on natural labour for medical students and midwives." It is very well as far as it goes, but is altogether too short and elementary for students; it may probably be found serviceable as a handbook for midwives. The illustrations are unusually good, several being reduced from Farabœuf and Vernier's new book.

Lehrbuch der Hebammenkunst. Von DR. BERNHARD
SIGMUND SCHULTZE, Jena. Zehnte Auflage. Leipzig,
Wilhelm Engelmann. 1891.

The ninth edition of Dr. Schultze's manual for midwives has been exhausted in two years, necessitating a new edition. It is the standard text-book in Germany, and is clear and practical in all its details. As no changes of importance have been made since it was reviewed in this JOURNAL, it is needless now to add any further remarks. Professor Schultze is perhaps best known in this country as the author of the large obstetric diagrams used for teaching purposes in our hospitals and colleges.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, March 4th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Resection of the Intestines for Fibrous Stricture following Strangulated Femoral Hernia.—DR. SHEPHERD exhibited a woman, aged 53, on whom he had performed this operation in December last, and at present the patient is in good health, having a perfectly normal condition of the bowels. The history of the case was given shortly as follows: Patient was brought to the Montreal General Hospital on 5th August, 1891, for strangulated femoral hernia, which was relieved by operation; the bowel, looking suspicious, was returned with some misgivings, and was retained immediately within the femoral ring. The patient did well, but after a couple of weeks the wound reopened and some sloughy tissue came away; after this she rapidly improved and left the hospital on Sept. 12, with a small sinus still persisting. She was seen again in October, and at that time was suffering from marked symptoms of chronic obstruction. There was pain and tenderness over the whole abdomen, which was much distended and tympanitic, and there was frequent vomiting. This was soon succeeded by a severe diarrhoea, which was accompanied by the passage of a large amount of flatus. The distension, tenderness and discomfort soon subsided, only to be succeeded in a few days by a similar condition of affairs. At the site of the operation wound there seemed to be a large mass of cicatricial tissue, and pressure here caused pain. She said that the obstruction was always felt to be at this point. Exploratory operation was suggested, and she was told to return to hospital if her condition did not improve. She was readmitted to hospital on December 17th, 1891, for operation.

Operation.—An incision was first made in the linea alba and the seat of obstruction explored. The bowel was found embedded in cicatricial tissue at site of old operation, and whilst endeavouring to separate it, it was torn. A second incision was now made in the right semilunar line so as to see better the attached intestine. It was found that the whole an-

terior wall of the small bowel at this point was a mass of cicatricial tissue, and that the lumen of the bowel was not greater in diameter than a lead-pencil. It was immediately decided to resect the bowel, so the attached portion was separated and the strictured part was cut out, altogether about three inches of bowel were removed with the attached mesentery. The two ends were now brought together in the usual way, the upper end of the bowel being much larger the lower end was with some difficulty approximated to it. Two rows of fine interrupted silk sutures were used, an inner row passing through the muscular and mucous coats, and an outer row passing through the external coat after the method of Lembert. After dropping back the united intestine, both abdominal wounds were closed with silkworm gut sutures and a rubber drainage tube inserted into the lower angle of the lateral incision. This reached the point where the bowel had been involved in the cicatricial tissue, and which was freely oozing. The wound was dressed with iodoform gauze and absorbent cotton. The patient did well for some days, and on the fourth day after operation (21st) passed a well formed stool. On the 23rd of December she complained of chilliness, pains in her limbs, and soon there was high fever and a bronchitic cough, which developed into a severe attack of bronchitis. She had for many years been subject to asthma, and had had frequent attacks of bronchitis. All this time there were no symptoms referable to the abdomen, though her general condition gave rise to alarm. Under active treatment she gradually improved. The severe cough caused much pain in the abdominal wounds, and frequently disturbed the dressings, so that a small abscess formed in connection with the central wound; this was in the walls of the abdomen only, and as soon as opened healed rapidly. Towards the end of January patient was going about the ward; the abdominal wounds were completely healed and bowels quite regular. Later on she developed a middle ear abscess; this, I have no doubt, followed the bronchial attack, which was evidently a form of the prevalent influenza. She left hospital with the ear trouble quite well on February 16th, and her general condition has improved ever since.

Dr. Shepherd also stated that Dr. Boone of Presque Isle, Maine, a graduate of McGill of 1887, wished him to report a successful case of resection of the intestines in a case of stran-

gulated inguinal hernia. The case occurred in a man who had extroversion of the bladder with double inguinal hernia. The right side became strangulated, and operation for relief was immediately performed by Dr. Boone. The bowel was found to be gangrenous, so nine inches were excised. The patient did well, and is now alive and in good health. The operation was performed in April, 1890.

Spina Bifida.—DR. JAMES BELL showed a child on whom he had operated for this condition, and gave the following history of the case :—

The child, a female, when first seen at 15 months of age, had a tumour about the size of a cocoanut situated over the sacrum and attached by a broad, short pedicle about two inches in diameter. It was covered with normal skin, was translucent, and, according to the mother's statement, was growing rapidly, out of proportion to the growth of the child. It was described as of about the size of a hen's egg at birth, and covered with thin, reddish skin. No increase of tension was observable when the child cried. Two months later, Jan. 29th (the conditions being as already described), the tumour was excised. An incision was first made longitudinally and well to the side to avoid any nerve elements which might possibly be attached to the sac. The fluid, clear and colourless, escaped, and the interior of the sac was examined. It contained no nerve elements, and there was no communication with the spinal canal, although the arches of the last lumbar and upper sacral vertebræ were absent; and on subsequent examination the tissues of the sac were found to correspond in structure with the membranes of the cord. The tumour was excised by elliptical incisions, the edges brought together with catgut sutures, with a few strands of catgut at the lower angle for drainage. Primary union took place throughout, and the child was discharged from hospital on the 19th day after operation.

Dr. Bell stated that he brought the case before the Society mainly for the reason that spina bifida seemed to be considered by physicians generally as a condition not amenable to surgical treatment. This view was no doubt based upon the fact that under old surgical methods the mortality was very great, and

after excision the patient almost invariably died within a few days from septic meningitis. Hence the tendency to leave these cases to nature, although it is a generally accepted fact that only a very small proportion of these patients live to reach adult life, and in a still much smaller proportion the tumour undergoes spontaneous cure. Hence, also, the treatment by ligature and injection. Dr. Bell considered excision the ideal operation, and thought that success or failure depended largely, if not altogether, upon asepsis, and quoted from recent authors in support of this statement. The case in point was one of those (sometimes called false spina bifida) in which any method of treatment would succeed, and in case of rupture or suppuration spontaneous cure would result.

Uterine Polypus.—DR. LAPHORN SMITH exhibited the specimen, which he had removed last summer from a patient sent to him by Dr. DeMoulied, who had been treating her for some time for profuse menstruation. Being single, and 35 years of age, it was several months before she could be urged to submit to an examination. The vagina was found filled with a solid fibroid tumour, the pedicle of which extended up into the uterus as far as the finger could reach. When Dr. Smith first saw her she was in a state of profound anæmia. The fibrous pedicle was snipped off easily from its insertion to the cervix, about the level of the internal os, and no hemorrhage followed. The patient made a rapid recovery, being able to walk about at the end of two weeks. She was then put on Bland's pills, with very great benefit. Dr. Smith pointed out the necessity of insisting upon a local examination in every case of profuse hemorrhage from the uterus which is not arrested by a few weeks treatment with ferruginous tonics.

Pelvic Hæmatocele possibly due to Extra-uterine Fætation.—DR. LAPHORN SMITH reported this case, which occurred in the practice of Dr. René Decotret. Madam G., aged 27, married seven years, and mother of one child four years old, consulted Dr. Decotret about a month ago for metrorrhagia, which had lasted five weeks. She had begun to menstruate at 15, and had always been regular until May 1891, when her periods came on twice in a month and lasted eight or nine days, suffering at

the same time from constant headache, leucorrhœa, constipation, and frequent micturition. In November she missed a period, and since then her breasts have been tender; the metrorrhagia began in December, and was accompanied by severe pain in the abdomen, loins and perineum. Dr. Decotret found a badly lacerated cervix and the uterus pushed over to the left side by a swelling in the right lateral fornix. Dr. Smith was called in consultation and found the above conditions, and diagnosed disease of the tube and ovary of the right side, strongly urging their removal. Consent was given, and two days later Dr. Decotret, assisted by Dr. Smith, performed abdominal section. On passing his finger into the abdominal incision the operator came on a soft tumour the size of an orange, through the walls of which he easily entered, and at once there appeared at the incision about half a pint of tarry fluid. This was sponged out and a handful of clots torn away. The ovary was then brought up and found to be cystic, the tubes were enlarged to the size of the thumb for a distance of two inches from the fimbriated extremity; the tube and ovary were removed, the cavity flushed with hot water at 110° , a drainage tube inserted, and the wound closed with silkworm gut. The tube was removed on the third day. The temperature has been $98\frac{1}{2}^{\circ}$ ever since, with the exception of the third night, when it reached 101° for a few hours only. There has been total absence of pain; but one hypodermic of morphia was given after the operation to weaken the heart and so diminish oozing. The bowels were moved next day with Rochelle salts, and on the twelfth day the patient was practically well and on full diet. The operation was performed in a little tenement house, with none of the conveniences of a modern hospital, and by a surgeon who had never performed the operation before. The specimen was a beautiful one; the tube could be distinguished in its whole extent, about five inches in length. About an inch from the uterus it suddenly ceased to have its thick whip-cord appearance, and becoming distended to the size of the thumb for about three inches with a solid clot, and its walls being stretched out to the thinness of tissue paper. The remaining inch with the fimbriated extremity on the end of it was not distended very much, but contained a little dark blood.

The fimbriæ were buried in a large blood-clot which filled the peritoneal cul-de-sac, and in which the ovary was imbedded. The layers of the broad ligament were separated by a layer of blood-clot half an inch thick. The appearances were just such as we would expect to find in a case of extra-uterine foetation which had ruptured, at the twelfth week, into the broad ligament, some of the blood escaping into the peritoneal cavity through the fimbriated extremity. Against this view, however, we have the report of Dr. Bruère, who, after a careful examination, states that no chorionic villi or decidual cells had been found. Unless we are willing to admit that these tissues can undergo fatty degeneration and be absorbed in about a month, we must fall back upon the opinion which Dr. Bruère holds, that this is a case of hæmato-salpinx; in other words, that the mucous membrane lining the tube became so congested that it began to pour out venous blood faster than it could escape into the uterus, and that the rest of the blood ran into the peritoneal cavity, where it produced just enough local peritonitis to throw out a wall or limiting membrane of exudation.

DR. WM. GARDNER said that in a large proportion of cases such as the second we would expect to find chorionic villi if not a foetus, but we cannot gainsay the pathologist's report. He had met with a somewhat similar case. A French-woman, mother of seven children, had lost blood for thirty-eight days, and during the last two weeks had three violent paroxysms of pain. A mass was discovered on one side of the uterus. On opening the abdomen a quart of blood was found in the cavity, and had evidently recently escaped; the left fallopian tube was removed. The outer extremity was very much more trumpet-shaped than normal, being large enough to admit the thumb; on opening it, it was full of recent clot. Though very weak, she rallied and left the hospital in three weeks. He emphasized the fact that a patient should not be allowed to go on to an exsanguine condition before operative interference. He had removed a number of polypi, some so large as to completely fill the pelvis, and had to be removed in wedge-shaped pieces. He had never been troubled with hemorrhage after their removal. He had lost one

case of enormous polypus; inversion took place during its removal, the uterus was returned, but the patient never recovered.

Small Ovarian Cyst with Papillomatæ.—DR. WM. GARDNER exhibited the specimen, which he had removed from a woman whose only symptom had been severe vesical irritation some two months ago; this irritation suddenly ceased and a lump was detected. He thought that while the tumour rested in the pelvis it kept up an irritation of the bladder, but on slipping up out of the pelvis the symptoms ceased. It was an unilocular cyst filled with papillomata, and presented no difficulty in removal. This condition furnished an argument for early operation while the cyst remains whole and has a convenient pedicle, for if it should burst and the papillomata become scattered about and grow into masses all over the peritoneum, the prognosis is of the worst. He had removed a number of similar papillomatous cysts without any recurrence.

Bacillus of Diphtheria.—DR. MCCONNELL exhibited two tube cultures on solidified hydrocele fluid of Löffler's bacillus. They grow in from 18 to 24 hours, and as no other bacillus will form a layer so rapidly we have a means by which we are able to make an absolute diagnosis. The first culture had been taken from a patch on the throat of a child who had suffered with patches on its throat time and again, but which were lightly regarded; the tube was inoculated, and within 18 hours a copious growth could be seen. He thought that many of these transient cases in which there was headache and sore throat with membranous formations were really diphtheria, caused by an attenuated form of the bacillus, which is exceedingly variable in its degree of virulence. The second tube was made from a culture nine months old. To test the activity of these old bacilli he inoculated a tube and found that they grew even more rapidly than in the culture from the child's throat. This is a practical point, for it shows that the disease may linger about a house for a long time, especially if the bacilli become attached to organic matter, and suggests thorough disinfection. The great rapidity of the growth of these organisms suggests that the application of some antiseptic to the throat should be made very frequently. It is his rule to order the throat to be sprayed every forty minutes, and

to give the iron mixture, with sulphurous and boric acids and half glycerine, between each application, in small doses so as not to irritate the stomach. He thought that the usual iron mixture owes its beneficial effects almost entirely to its local antiseptic action. Only when the secretions from the throat fall upon carpets or bedding and the like and became dry can the poison be distributed about in the air. Once the bacilli start to grow in sewers, the heat and moisture greatly favours their propagation, and he thought that it would be impossible to get rid of them.

DR. DECOW thought that it was well to treat all cases of sore throat in children as diphtheria, for we know that the sooner we commence treatment the better.

The PRESIDENT asked where the patches were located in the child, and if it was not peculiar to have repeated attacks of diphtheria within so short a time.

DR. F. W. CAMPBELL cited the case of a family in which three members were attacked simultaneously by diphtheria, and the evidence pointed out conclusively that the infection arose from the sewers. He agreed that once the poison got into the sewers it would be impossible to get it out, and he thought that it could be conveyed through the air.

DR. MCCONNELL said, in reply, that the danger of conveyance of the poison by air would be reduced to a minimum so long as it was kept moist. All rags used for cleansing the mouth and nose should be immediately burned. The germs are easily destroyed by a temperature below the boiling point of water.

The Late Dr. J. J. Dugdale.—The following resolution of regret was proposed by Dr. F. W. Campbell, seconded by Dr. McConnell, and carried: "That this Society wishes to express its deep regret at the death of Dr. J. J. Dugdale, one of its members, and begs to convey to his relatives deep and heart-felt sympathy."

Stated Meeting, March 18th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

General Tuberculosis in a Child Seven Months Old—DR. LAFLEUR exhibited the organs of a child who had died suddenly.

A caseous mass was found at the bifurcation of the trachea ; the lungs were hyperæmic, over-distended with air, and contained a few scattered miliary tubercles, especially at the roots. A caseous tubercular nodule situated in the lingula of the left lung was the only one observed in the lungs. The spleen contained miliary tubercles, some beginning to caseate ; the same condition was present in the cortex of the kidneys. In the ileum, just above the fold of the ileo-cæcal valve, there was a ragged ulcer with thickened edges ; it was probably tubercular, though no tubercles were found about its edges or base. The lesions are typical and originated in the tubercular focus in the bronchial glands. The case was of interest on account of the age of the child. It has been asserted by some that tuberculosis is unknown in infants under one year, but Landouzy and other French pathologists have shown that it may be present in sucklings, while in America Emmet Holt has demonstrated the same fact. In this case the lesions hardly appeared sufficient to cause death, but the trachea and bronchi were filled with a material identical with that found in the stomach, so that the child had probably been choked by drawing regurgitated food into the trachea. The family history was unknown.

Cancer of the Ovary and Peritoneum.—DR. LAFLEUR exhibited sections of this condition under the microscope. At the autopsy the abdomen was found distended ; on section the walls were thin and the cavity contained three gallons of dirty brown, turbid fluid. The peritoneum was much thickened generally, and cancerous deposits were found on both the visceral and parietal layers. The omentum showed the usual changes ; it was drawn up like a cord about the transverse colon and quite unlike omental structure. There were no metastatic deposits in the liver, kidneys or spleen. Histologically the growth consists of fibrous stroma and alveoli containing small round and oval cells with nuclei about one-half the size of the cell and which stain deeply. The chronicity of the case was shown by the amount of fibrous tissue, all the pelvic viscera being bound together so that they had to be removed as a whole, forming a conical cast of the pelvis. In the right ovary there were areas

of fatty degeneration and liquifaction, many of the cysts being filled with a grumous fluid.

DR. FINLEY gave the following history of the case: A woman, aged 55, a total abstainer. Towards the end of 1890 she began to feel unfit for much active exertion and was easily tired. He first saw her on July 22nd, 1891, when she complained greatly of eructations of gas and swelling of the abdomen; she had lost some flesh and was somewhat pale and thin. On August 18th there was a large amount of fluid in the abdomen with very distinct fluctuation and dulness in front and in the flanks, with a tympanitic note in the epigastrium as if fluid was beneath the great omentum. At this time there was also a good deal of vomiting, and the temperature ranged from 100° to 102° . Early in September the cancerous cachexia became very distinct, and the face showed the peculiar drawn expression so characteristic of severe abdominal disease. In December the distension of the abdomen was extreme; the superficial veins were much distended; pigmentation of the skin and œdema of the legs. Some thirteen quarts of fluid of a port-wine colour were drawn off, sp. gr. 1020, and containing large numbers of red blood corpuscles and clumps of cells of a large size, probably cancerous. After tapping, the great omentum could be felt as a distinct bar across the upper part of the abdomen. During the last eight weeks of her life she took absolutely no food, and only small quantities of ice and water, which she would regurgitate. A few small subcutaneous hemorrhages developed before death, and occasional coffee-ground vomiting. There was no jaundice, and the only pain felt was in the back and was never severe. The emaciation was most profound, due to the eight weeks fast. The mind remained clear to the last. It was at first doubtful whether the disease was cancerous or tubercular peritonitis. The patient's mother and sister died of tuberculosis, but as soon as the cachexia developed the diagnosis became certain. No pelvic examination had been made, as there were no symptoms pointing to disease of the pelvic viscera. The duration was probably about fifteen months, and the onset very insidious.

Branched Kidney Calculus.—DR. JAMES BELL exhibited the

specimen, which was removed from the right kidney of a man, aged 36 years, who gave the following history. The first symptoms were noticed about Christmas 1890, and consisted of sharp pain about the right loin, which persisted for about ten days and then disappeared; in about a week it returned and was followed by swelling, which was noticed in the right hypochondrium. After free purgation the swelling disappeared, but he has suffered from vomiting and dyspeptic symptoms ever since. On admission to hospital on Feb. 3rd, 1892, the patient had a distinct painful swelling in the right hypochondrium; he had also suffered from vomiting, pain and discomfort about the tumour, which was always greater when he was constipated, and was always relieved by a saline purge. After a few days' observation the tumour suddenly became much reduced in size, and coincidently there appeared in the urine a large quantity of pus. The urine had always contained some pus, but as the patient suffered from a tight old stricture five and a half inches from the meatus, its origin had been considered doubtful. For some days the flow of pus continued and the tumour became reduced in size until it could be distinctly felt to be the kidney. No blood had ever been observed in the urine. The question arose as to whether the kidney should be operated upon at once or the stricture first treated. The latter course was decided upon, and on the 24th of February the patient was anæsthetized and the stricture cut internally on the roof of the urethra, followed by dilatation up to 30 (French), and a drainage-tube through the membranous urethra. Troublesome hemorrhage followed, but was controlled without much difficulty, and the operation was promptly recovered from. Two weeks later the kidney was opened by lumbar incision and the stone removed from the upper and posterior part of the organ. The patient has made satisfactory progress since operation, but the urine still contains a small quantity of pus, and pain is complained of at times along the course of the ureter and just over the brim of the pelvis.

Retro-Pharyngeal Tumour.—DR. JAMES BELL gave the following report: L. H., aged 12, admitted to General Hospital 9th March, 1892, complaining of a lump on right side of neck. This was first noticed on the 11th April, 1891, and was then

about the size of a hen's egg. There was no pain. No history of toothache, earache or sore throat having preceded it. It has increased very slowly in size, but more rapidly, she thinks, during the last few weeks. It has never been painful, neither has there been any difficulty in swallowing. Personal and family histories negative. On the 10th March an incision was made behind and below the angle of the jaw to avoid the branches of the facial nerve. The tumour shelled out with the greatest ease, and, with the aid of the finger of an assistant in the pharynx, was delivered without any trouble. Recovery was uninterrupted. These tumours, which are comparatively rare, are typically illustrated in this case.

DR. LAFLEUR exhibited the tumour for Dr. Bell. It was spherical, with irregular surface and a distinct capsule. On section, it is seen to be of a greyish-pink colour, and is not entirely solid, there being one large distinct cavity full of fluid, and several smaller ones filled with sago-like material. The cells are very small and oval, with large nuclei. In places where the tumour has degenerated the basis can be made out better; the stroma is very delicate, reticulated and branching. The tumour more closely resembles a lympho-sarcoma than anything else, but as the tumour had a definite capsule, and was so independent of the surrounding tissues, it is very doubtful if it will recur.

Acute General Peritonitis following Rupture of an Ovarian Cyst ; Operation ; Recovery.—DR. BELL gave the following clinical report :—

A. F., a widow, aged 35, was admitted to hospital on the 1st of March with symptoms of acute general peritonitis. She had complained of abdominal pain for nearly two weeks, and had been confined to her bed, very ill, for four days. She had always menstruated regularly, had never been pregnant, and menstruated last about two weeks before admission. The abdomen was considerably distended, very tense, hard and tender on pressure, with an indistinct fulness in the left hypogastrium which gave a dull note on percussion. Patient lay with her knees drawn up, and complained of constant severe pain, with spasmodic exacerbations. Pulse 120; temperature 102°F. Bowels had moved several times since onset of illness. During the night the bowels

moved several times, and next day the fulness in the left hypogastrium had disappeared. Examination by rectum and vagina gave no definite results. On the 4th of March, the patient's condition being desperate, the abdomen was opened in the median line below the umbilicus. As soon as the peritoneal cavity was opened a copious flow of dark, olive-coloured fluid escaped. The intestines were covered with lymph and matted together, so that the coils of small intestine had to be carefully separated to allow the hand to reach the pelvis. The appendix, greatly swollen and covered with lymph, was separated from its attachments, ligatured, and removed. On examination, however, it was found to be quite normal within, and only swollen from the general inflammatory process within the abdomen. On reaching the pelvis a collapsed cyst with a large rent was felt, which, with about a pint of grumous, semi-decomposed blood-clot, filled the cavity of the pelvis. The blood-clot was removed, and the cyst, which was adherent everywhere and involved both ovaries, was separated from its attachments. The right Fallopian tube, first ligatured and removed, was normal, with the exception of a little swelling. The left tube was greatly swollen, and its fimbriated extremity, red and pointing, resembled a lobster's claw. The pelvis was freely irrigated with warm boiled water, and the wound closed as rapidly as possible, with a glass drain in the lower angle, as the patient's condition was extremely critical. She rallied somewhat slowly from the operation, but has since progressed most favourably. The abdominal wound is now (two weeks after operation) closed, and with the exception of a little suppuration around the site of the drainage tube (extra peritoneal), and an abscess in the arm from the injection of brandy, ether, tr. digitalis, etc., at the time of operation, the patient's condition is excellent.

DR. LAFLEUR exhibited the specimens, the two ovaries had coalesced and become firmly adherent. The contents of the cysts were those usually seen. There were secondary changes in the walls of the tumour, areas of coagulation necrosis forming superficial sloughs. In some places the walls are distinctly vascular, while in others there is fatty degeneration. It is a typical ovarian cystoma, and beyond being double and adherent presents no special pathological interest.

The PRESIDENT said that this case forcibly illustrates the great advances made in abdominal surgery, and thought that Dr. Bell should be congratulated on his bold treatment of a desperate case.

DR. LAFLEUR said that the virulence of peritonitis depended upon the nature of the infection. It has been shown that the most virulent cases are those due to streptococci, whereas those cases in which the bacillus coli communis was found were more favourable.

Acute (Yellow?) Atrophy of the Liver.—Dr. McConnell read the following report:—Mrs. G., aged 51, widow: has had five children, is about medium height, inclined to corpulency, weighing about 200 pounds, has usually enjoyed good health with the exception of occasional attacks of biliousness or indigestion and symptoms referable to hepatic derangement, these attacks have occurred off and on for the last 22 years, never had jaundice, has never used alcohol, and there is no history of syphilis. Had la grippe during the second week of last month and had a relapse about first of February. I saw her for the first time on the 13th of February, 1890. She complained of loss of appetite, nausea, headache, constipation and pain in the region of the liver, on percussion the liver dullness extended 3 inches in front, no stigmata on the face. About the 20th a slight icteroid hue of the skin was observed which became well marked jaundice by the 25th, with increased headache and a burning, pricking sensation in the skin, no pain complained of, bowels moved by purgatives.

March 7th—Jaundice more marked, the skin having a bronzed appearance and the conjunctivæ deeply tinged, an epistaxis had occurred the day previous, little tenderness over the liver—vertical dullness being only two inches. During the last three days, and five or six times daily, a rushing sound in the ears has been felt, followed by temporary deafness. Tongue is heavily coated in the centre, clean and smooth at the edges, hands and feet slightly œdematous; urine scanty and high coloured, sp. gr. 1019, no albumen or sugar, loaded with bile pigment; skin dry, and temperature rises in the evening.

March 17—Hue of skin the same, but less itching, no œdema, headache for three or four hours daily and vomiting

of a bitter, sour, yellowish liquid two or three times a day. No pain in the region of the liver, but a fulness complained of, food does not digest, but is vomited up sometimes twelve hours after; stools have the appearance of white marbles; temperature in a.m. $98\frac{1}{2}^{\circ}$.

March 28—Headache, almost constant dizziness and deafness complained of; pains in calves of legs and thighs; to-day complained of pain in the liver region and under the right scapula, which was very severe in the afternoon, but suddenly abated and was followed by an attack of diarrhoea.

April 1st—Diarrhoea has continued, stools liquid and bright yellow, complains of acute pain in the region of the gall bladder, had one attack of excruciating pain lasting three minutes, severe headache, jaundice less marked.

April 5th—Diarrhoea still continues, stools liquid, saffron yellow and not offensive, colicky pains complained of in the abdomen. The treatment has been chiefly symptomatic, sprudel salts and phosphate of soda; mustard applications in the beginning until diarrhoea set in.

11th—Somewhat better, diarrhoea kept in check by an occasional camphor and opium pill, hæmorrhoids have caused some distress.

17th—Condition much the same, diarrhoea with yellow stools continues and headache more or less constantly present.

May 17th—Patient has continued much in the same condition, but during the last three weeks fluid has accumulated in the peritoneal cavity, complains of more or less constant pain in the abdomen, during the last three days vomiting has been frequent, urine loaded with bile pigment, sp. gr. ranging between 1012 and 1026 and containing abundant deposits of leucin, but I was not able to detect tyrosin; no albumen.

May 20th—Urine suppressed to-day and abdomen much distended with ascitic fluid and gas; pulse 130.; respiration 40; temp. 97° ; pupils widely dilated; she is in a condition of stupor, tossing about, profound coma supervened, death occurring about midnight.

Autopsy seventeen hours after death.—Rigor mortis present post-mortem, discoloration on back and shoulders well marked, skin generally has an icteroid hue, not much emaciation, $2\frac{1}{2}$ inches of fat on abdomen, about four gallons of ascitic fluid

removed from the abdomen, stomach distended with gas, but normal in appearance. Liver weighed 38 ounces, averaging $1\frac{3}{4}$ inches in thickness, rather firm in consistence, although very flaccid as a whole, bile-stained, yellowish brown in colour thickly mottled with small whitish spots which are raised above the surface. gall-bladder contained about two ounces of fluid, bile is easily forced through the cystic and common ducts into the duodenum. Spleen weighed $6\frac{1}{2}$ ounces, dark violet in colour; kidneys normal in appearance, slightly congested, capsule not adherent. Microscopical examination of the liver shows marked hyperplasia of the connective tissue, much of it apparently freshly formed, vessels and bile ducts have been formed in it, the lobular arrangement of the cells is completely obliterated, the cells much atrophied and in some places have undergone fatty degeneration, in others only the detritus of broken down cells remain, in some cells bile pigment is deposited, no crystals of hæmatoidin or bilirubin observed, few of the terminal interlobular branches of the portal can be seen. There are masses of liver cells apparently belonging to sound lobules surrounded by white fibrous tissue, besides these masses there are those where only a few atrophied cells are found also surrounded by connective tissue. Connective tissue is especially abundant in and around the portal space, the marked angularity of the cells is a striking feature in the sections, no ecchymoses were discovered; the nuclei in some of the cells take the stain.

I found this case interesting chiefly from the fact that I was not able to make a satisfactory diagnosis. After a few weeks observation a number of affections of the liver could be excluded, thus amyloid disease could not exist as no chronic suppurative process was present and the liver was diminished in size—it was not cancer from the absence of great pain and progressive enlargement, hydatids are also accompanied by enlargement, the pain and history is different from what is observed in contractions of the liver following local peritonitis. In the contraction following occlusion of the gall ducts by calculi there is a history of numerous attacks of hepatic colic followed by temporary jaundice, clayey stools and the *fièvre intermittente hépatique* of Charcot. No evidence of occlusion of the portal vein by thrombus, pressure or otherwise

was obtainable. The absence of fever, sweating, and rigors excluded all acute inflammatory affections. It seemed to become a question between interstitial hepatitis or sclerosis and acute yellow atrophy of the liver. Against the view that it is the former is the absence of a history of indulgence in alcoholic liquors or of metallic poisoning, the short duration of the attack, the persistent and high degree of jaundice and its occurrence at the onset of the attack, no enlargement of the organ preceded its atrophy, no particular emaciation of the patient, the late appearance of the ascites and its not being particularly distressing and the normal size of the spleen. In favour of the case being one of acute yellow atrophy there is the appearance of jaundice in the prodromal or early period of the disease and lessening during the later half—although this may be accounted for by the appearance of bile in the stools as if some slight obstruction, catarrhal or otherwise, in the ducts had been removed, and it is noticeable that from the date of this egress of bile diarrhoea set in, and continued, being kept up chiefly through the obstructed portal circulation in the liver. A polycholia existed for a time, in which the jaundice was diminished but slightly, although accompanied by copious bilious stools. The abundant deposits of leucin indicated a corresponding degree of lessened excretion of urea, the dilatation of the pupil during the last few weeks, toxæmic symptoms with elevation of temperature at the end, the termination in coma, and all occurring in a period of about three months are points in favor of a subacute form, of acute yellow atrophy, and the microscopical examination demonstrates atrophy of cells, and considerable development of connective tissue, a condition described as being sometimes present in this disease by Waldeyer. The age of the patient is very unusual for the occurrence of this disease and its extreme rarity necessitates care in the diagnosis, but from most points of view I think the evidence is in favour of this case being one of this rarely observed disease subacute in character. Among the functions of the liver are its antiseptic functions; poisonous substances from the gastro-intestinal tract are destroyed, or their action modified in the liver. Some have supposed acute yellow atrophy to be due to the action of bacteria, but most observers have failed to find them and have to fall back on the

supposition that some irritating ptomaine is the cause. Why not in this case explain the lesser degree of atrophy by supposing the morbid products to have been conveyed to the liver in such amounts that it was able to overcome it partially, death occurring from toxæmia before all the lobules had been completely destroyed.

DR. F. W. CAMPBELL understood the difficulty in diagnosis, but it would have been well to have dropped the term "acute," the course of three months is against it being acute yellow atrophy. He had met with cases, at post mortems, with distinct cirrhosis of the liver where there had never been a drop of alcoholic liquor taken. Some of the generally recognized symptoms of acute yellow atrophy were absent, there was no delirium and the headache not acute, though the history of diminution of liver dulness followed the usual course. He was sorry that Dr. McConnell had not gone more fully into the examination of the urine, nothing had been said of urea, uric acid or earthy phosphates which are much diminished or may be almost entirely absent. The position of the liver found at the autopsy had not been described, whether the disappearance of dulness is due to the liver falling back behind the intestines. He thought that he would prefer to consider the case one of cirrhosis.

DR. DECOW said that the most prominent symptoms of acute yellow atrophy were not present, namely, the tendency to hæmorrhage, profound cerebral disturbance, changes in the urine and rapidly fatal termination. Exclusion of alcohol has nothing to do with it. Some authorities held that it may be due to mental disturbance. He had seen a case under the care of Dr. Bristowe in London, a child a few years old, where the hæmorrhages were the earliest symptoms.

DR. LAFLEUR asked Dr. McConnell if he thought he saw the patient at the beginning of her illness. He may not have seen her during the time of the original enlargement, but only after atrophy had commenced. He had frequently found cirrhosis at autopsies, though never suspected, death being due to some intercurrent disease.

DR. FINLEY said that there were many cases of cirrhosis when alcohol had never been used. The ascites and long duration are points in favour of its being cirrhosis.

DR. McCONNELL said in reply that as far as he could learn there had been no previous symptoms except the bilious attacks for a number of years. Jaundice was the first symptom of her illness, the absence of hæmorrhages was a weak point in the diagnosis, but might depend on the subacute form of the malady. The fact of finding leucin is a proof that there is lessened urea. He thought it would be well to drop the term "acute."

Extra uterine fœtation.—DR. E. A. MCGANNON of Brockville, read a paper on this subject which appears on page 721.

DR. ALLOWAY thought the history of the case a little short, he did not catch how long the fœtus was in the abdominal cavity proper. He congratulated Dr. McGannon on the result of the case.

DR. MCGANNON said that the history was very definite, and he thought that there could be no question about the length of time, which was within a few days of thirteen months.

Selections.

Recent Progress in the Study of the Blood.—Advances in the medical sciences are so rapid and publications so numerous that occasional "stock-taking" becomes a necessity, lest the facts acquired be engulfed and hidden in the very mass of contributions that gave them forth. A review of recent progress in the knowledge of the diseases of the blood is at once a profitable and pleasant work, for in few branches of medicine will we find advances so far-reaching in the results already attained, so promising for the future. Some one has said that we owe as much to the maker of instruments of precision as to ourselves for the advance in modern science, and assuredly there is more than a grain of truth in this. Without the hemocytometer, the hemoglobinometer, and the microscope we should still remain in ignorance of many well-established principles, valuable in diagnosis and still more so in treatment. Without these aids we might find consolation in the words of a prominent therapist, who says: "How interesting to be able to count the corpuscles and measure the hemoglobin, but I see by the skin that this is anæmia, and my studies teach me that iron cures anæmia." Doubtless it is true that we may diagnose anæmia by the appearance of the skin, but aside from any thought of the fact, so well stated by Sansom, that "no disease is well treated

that is misunderstood," practical experience and scientific investigation have demonstrated that there are cases of anæmia and anæmia, often distinguishable, not by the hue of skin or the clinical history, but by the careful study of the blood, and by this alone. It has been sufficiently established that there are three classes of anæmia readily distinguishable by the condition of the blood: first, simple anæmia, in which the hemoglobin and the number of red corpuscles are correspondingly diminished; second, chlorosis, in which the hemoglobin is lessened far out of proportion to the diminution in the number of the red corpuscles; and, third, pernicious anæmia, with its proportionately overwhelming decrease of red corpuscles and the relatively increased richness in hemoglobin of the individual corpuscle. These may be taken as types, to one or the other of which all the various forms of secondary anæmias may be referred; and if future observation fails to confirm our present views (Laache) that iron is of especial value when the chlorotic character is assumed, and arsenic when the blood is especially poor in the number of its corpuscles, it has been proved beyond dispute that the examination of the blood for the determination of the type to which a case of anæmia belongs is of the utmost service in establishing the diagnosis, and therefore the prognosis and treatment.

It is to the point to cite cases, such as those reported by Mouisset of Lyons, cases of carcinoma of the stomach, in which the constantly increasing cachexia assumes the aspect of pernicious anæmia, but in which the blood is of decidedly chlorotic character. We recall the case of an old man with most profound anæmia, with increasing weakness, and pallor and slight fever at times, but without palpable tumour of the epigastric region, and without vomiting except from indiscretion in diet—in short, a picture of pernicious anæmia, and yet, by discovering a chlorotic condition of the blood, or at least a condition not approaching pernicious anæmia, we were enabled to diagnosticate malignant disease, and autopsy confirmed the diagnosis. So, too, there are occasional cases of tuberculosis, of malaria, of chlorosis, and other diseases—not a few of them curable—in which the outward manifestations mimic this grave blood-disease, and which are distinguishable from it only by examination of the blood itself. What, then, are we to say of him who sets aside such valuable aids for diagnosis, and tells us it is possible to see by the pallor that there is anæmia?

Another great group of cases to which attention must be directed, and the study of which has received renewed impetus of late, are those in which the leukocyte plays an important rôle. Since 1846, when Virchow first recognized leukæmia as a blood-

disease and set aside the faulty notions of the older pathologists about "suppuration of the blood" and "hemitis," observations have been steadily accumulating, but none compares in importance with those of Ehrlich on the nature of the white corpuscles in health and disease. In pointing out that our old conception of leukocytes as simple masses of protoplasm, with ameboid motions, was not comprehensive enough, and that there are various kinds of leukocytes widely different in nature and origin, and in offering a ready means of distinguishing these, Ehrlich has contributed knowledge that has already yielded rich results and that will accomplish much more. It would be far from the present purpose to review the work of Ehrlich, even briefly, but we may state that by peculiar methods of staining he has succeeded in establishing five varieties of leukocytes in normal blood and determining their relative proportions, and that he has found in the blood of leukæmia a greatly increased number of one of these forms, and, besides, a form such as is never found in conditions of health (myelocytes).

Such being the case, it will be readily seen that, aside from the high scientific value of the observations themselves, he has placed in our hands the means of distinguishing the various forms of leukocytosis from the cases of true leukæmia, since in the former the corpuscles present to a great degree the normal characteristics and relations. We would direct attention in particular to the varied forms of disease in children, so well detailed by Luzet, in which, besides enlargement of the spleen, there is also more or less marked leukocytosis. Among these may be named congenital syphilis, rickets, and that peculiar form of disease described by Jaksch as infantile pseudo-leukæmia—all resembling true leukæmia, but distinguishable, as Luzet and also Baginski have shown, by the colour-tests of Ehrlich. The resemblance of these diseases, and sometimes other diseases of childhood as well, to leukæmia, while usually not so close as to require special means of diagnosis, at times becomes so marked that the character of the leukocytes, as determined by Ehrlich's methods, alone serve to make the diagnosis. So, too, in cases of chronic malaria in adults, the enlarged spleen, the progressive anæmia and weakness, together with marked leukocytosis, present a complex of symptoms scarcely to be distinguished from leukæmia, except by the character of the leukocytes. The practical utility of these methods could receive no better illustration than the case of Toulmin and Thayer, one of leukæmia, in which, under treatment, the spleen diminished in size, the general symptoms abated, and the excess of leukocytes disappeared. In such a case it would be impossible to diagnosticate

leukæmia, except that, as was actually found, there still remained myelocytes and the proportions of the different forms characteristic of the disease. Subsequent relapse, with reappearance of the symptoms, confirmed the diagnosis. The value of these investigations cannot at the present time be rightly estimated, for we have yet much to learn of the extent to which they are applicable, but the few examples cited are sufficient to indicate the immense importance of continued study in this branch of pathology.

Still another line of research demands notice—the study of micro-organisms and foreign elements in the blood. It is noticeable how little bacteriology has accomplished in this direction, for though many micro-organisms have been found in the blood, there are few the detection of which serves any practical purposes; of these we may mention the malarial organism, the spirocheta of relapsing fever, and the bacillus of anthrax. Whatever the future may determine as to the nature of the malarial organism, or its exact relation to the disease as a cause, there can no longer be any dispute as to its value for diagnosis. We may call attention to the recent paper of Dock in connection with this subject. Examination of the blood for anthrax-bacilli may be of great interest in cases of intestinal anthrax consequent upon meat-infection, and may be the means of establishing the diagnosis.

In thus reviewing some of the practical points in the recent advances in the study of the blood, we hope that it is clear that a more general adoption of these means of investigating disease has become a necessity. We are well aware of the obstacles in the way of the introduction of such methods in private practice, but even in our hospitals they have been neglected, and here the scientific value of such work alone should have been sufficient to secure its introduction. We might enlarge greatly and extend our remarks to the researches into the nature and cause of the blood-diseases, chlorosis and pernicious anæmia in particular, or to the studies of the physiology of the blood-making organs, stimulated by the new methods of investigation furnished by Ehrlich, or the promising questions of antagonism between the fluids of the blood and micro-organisms, but the purpose here has been to direct attention only to the practical side of these questions, and to urge a more general practice of methods of study that must prove of the greatest value.—*Medical News*, ch 12, 1892.

THE
Montreal Medical Journal.

VOL. XX.

APRIL, 1892.

No. 10.

THE POST-INFLUENZAL MENTAL DISORDERS.

The influenzal poison, like that of all the common acute infectious diseases, is sometimes followed by various nervous disorders. There can be no doubt that influenza is one of the most, if not *the* most, prolific causes of functional and even organic affections of the nervous system. This is not strange when we consider the universality of its action. The three great influenzal epidemics of the past few years have sorely tried the nervous resisting power of countless thousands. It is safe to say that more people have been affected with influenza during this period than from all the other actual infectious diseases.

The influenzal poison, like alcohol, is especially apt to affect the highest cerebral centres and the terminal nerves. After both, we meet with either mental disorder or peripheral neuritis more frequently than from any other microbic or chemical poison.

In the current number of the *Journal of Mental Sciences* there is a review of Leledy's work on *La Grippe et l'Alienation Mentale*, where the part played by influenza in bringing about insanity is fully discussed. There is an agreement among those who have recently written on this subject that nearly every form of insanity may follow influenza. Melancholia appears to be more frequent than other forms. The mental symptoms may appear during the course of the influenza, or there may be an interval of a few weeks between the cause and the effect. Care should be taken not to connect, as is too frequently done, symptoms appearing long periods after an attack of influenza as a direct cause. In some cases the influenza appears to be the essential cause, while in others it

only acts as an excitant. Where there is an inheritance to insanity, the action of the poison is more marked and more durable. Dr. Leledy thinks, and his reviewer coincides with him, that in nearly all cases there is some other predisposing cause, or the influenza would not have been enough to upset the nervous balance.

The prognosis of influenzal insanity is looked upon as being more favourable than that of insanity from other causes. It, however, sometimes passes into chronicity or incurability.

Neurasthenia, with morbid fears, appears to be not an uncommon effect in persons on the verge of a nervous breakdown. These borderland cases furnish very troublesome patients, and if alcoholic or tainted with an insane heredity they may pass into actual insanity.

AMERICAN ACADEMY OF MEDICINE.

PRELIMINARY PROGRAMME.

The following topics are promised for discussion at the seventeenth annual meeting of the American Academy of Medicine, at the Cadillac Hotel, Detroit, Mich., on Saturday, June 4, and Monday, June 6, 1892:—

1. "Essentials and Non-essentials in Medical Education," the address of the retiring President, Dr. P. S. Conner of Cincinnati.

2. "The Value of the General Preparatory Training afforded by the College as compared with the Special Preparatory work suggested by the Medical School in the Preliminary Education of the Physician," a paper by Dr. T. F. Moses of Urbana, O.

3. "Does a Classical Course enable a Student to shorten the period of Professional Study," a paper by Dr. V. C. Vaughan of Ann Arbor, Mich.

4. "The Value of a Collegiate Degree as an evidence of Fitness for the Study of Medicine," a paper by Dr. L. H. Mettler of Chicago.

5. "The Value of Academical Training preparatory to the Study of Medicine," a symposium by Drs. H. B. Allyn of Philadelphia, W. D. Bidwell of Washington, and Elbert Wing of Chicago.

6. "The Newer Medical Education in the United States," a symposium by Drs. W. J. Heidman of Ann Arbor, Charles Jewett of Brooklyn, and Elbert Wing of Chicago.

7. A paper on some phases of the State Supervision of the Practice of Medicine, by Perry H. Millard of St. Paul.

Some other papers are partially promised, and the usual reports may be expected from the committees. Members of the profession are cordially invited to be present at the sessions of the Academy.

Medical Items.

—Dr. William Ewart, of St. George's Hospital, London, spent a few days in this city recently.

—The death of Dr. J. J. Dugdale of this city, although not unexpected, was a severe blow to his many friends. For many years Dr. Dugdale carried on a large general practice.

—The Royal Victoria Hospital, the princely gift of Lord Mount-Stephen and Sir Donald A. Smith, will soon be completed. Neither money, time or skill have been spared to make it a most complete modern hospital.

—L. D. McIntosh, M.D., D.D.S., Vice-President McIntosh Battery and Optical Co., Chicago, died very suddenly on Tuesday, March 1st, at De Funiak Springs, Florida, where he had gone to lecture before the Florida Chatauqua on Microscopy and kindred subjects.

—We are pleased to hear that the first edition of Dr. Osler's Practice of Medicine was exhausted in a few days. Probably no work in general medicine has had such a rapid sale. It is to be hoped that every practitioner in Canada will either purchase or borrow it, and read it carefully after having done so. Such a reading will be beneficial to themselves and their patients.

—The following lines, composed by Miss Beatrice ———, aged 10, are evidence of a diagnostic skill to be envied by the most experienced:—

Oh! what do you think has happened
To our dear dolly here?
She's got the "High-ho-tiddley bumps,"
And the Grip too, my dear.

Her "pulse" is over ninety,
Her "breath" is very quick,
Her "temperature's" over a hundred,
I'm afraid she's very sick.

But I hope that our dear dolly
Will soon be well and strong,
And then my dear nurse B——n,
We will see you before long.

THE

MONTREAL MEDICAL JOURNAL.

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

GEORGE ROSS, M.A., M.D.,

THOS. G. RODDICK, M.D.,

*Professor of Practice of Medicine, McGill University.**Professor of Surgery, McGill University.*

AND

JAMES STEWART, M.D.,

Professor of Clinical Medicine, McGill University.

MAY, 1892.

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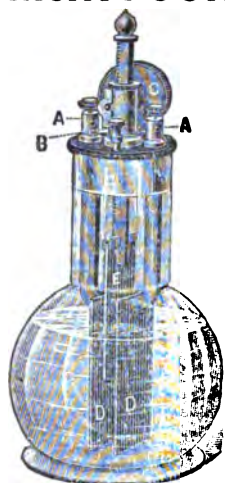
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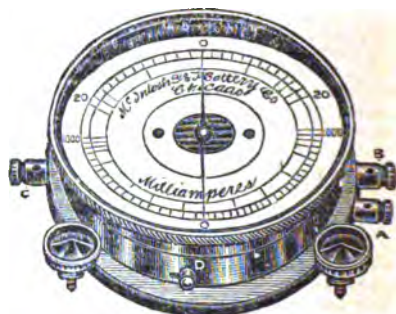
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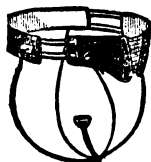
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

MAY, 1892.

No. 11.

Original Communications.

ADDRESS

DELIVERED TO THE GRADUATES IN MEDICINE AT THE FIFTY-
NINTH ANNUAL CONVOCATION OF THE MEDICAL FACULTY
OF MCGILL UNIVERSITY, APRIL 2, 1892.

By T. G. RODDICK, M.D.,
Professor of Surgery, McGill University.

Gentlemen-Graduates,—It is my pleasing duty, on behalf of my colleagues, to offer you our most cordial congratulations upon this auspicious termination of your labours. For the past four years you have been patiently working for the prize, which, with the customary ceremony, our worthy Principal has just presented to you in the name of the University, and now you are entitled to add to your ordinary signature the four letters—M.D.C.M. You have climbed the steep ascent and reached the summit of your present ambition, and though during the journey you have doubtless often experienced hours of despondency, and occasionally a hoplessness and even dread, your student days will now be remembered with feelings chiefly of pleasure. Hard work honestly done and opportunities faithfully improved will be prominent among the delightful associations which the retrospect will recall.

You are now well equipped for the journey of life. You are considered competent to enter the lists, and we, your trainers, are already beginning to speculate on the places you are likely to take in the great race before you. Hitherto the contest has been a friendly one, as between brothers of the same family.

Henceforth you must be prepared to cross swords with all comers. Be assured, however, that no matter in what part of the field you may be found, providing you are conducting a fair and honourable fight, you may always count upon the sympathy and support of those who have taught you.

You are to be congratulated not only on being elevated to-day to the position of master-workman, but also on being graduates of this world-renowned University. The Faculty in which you have served your apprenticeship has long been celebrated for its high standard of professional excellence, and the indications are strongly in favour of a still more brilliant future. Much of this well-earned renown has come down as a goodly heritage from the distinguished men who formerly occupied the various chairs, and many of whom your fathers best knew as teachers. But after all, it is to you, in common with all her graduates, that our Alma Mater looks to sustain this high reputation. With you it really rests whether or not she shall continue to be famous. In your safeguard is entrusted her honour and her credit. Remember, therefore, when striving for a front place in the ranks of our profession, that you are not only satisfying a laudable ambition, but you are at the same time honouring this Faculty, and through it this University. We feel that you will continue to take a lively interest in the affairs of the McGill Medical Faculty. As a class you have been with us now through many trials. In the brief period of your studentship no fewer than three professors have passed away. It is true the late Dr. Godfrey, formerly Professor of Hygiene, had not been on the active staff for some years, but to the last he was much interested in the welfare of the Faculty. Then what a loss we have recently sustained in the death of the gifted MacDonnell. Still a young man, he had already made an indelible impress on the medicine of this country, if not on the science of medicine wherever taught. The very fitting eulogium just delivered by our Dean, and the appropriate reference of your own valedictorian, leave nothing that I can add.

You are fortunate in having been students of this Faculty during the lifetime of the late Dr. Howard, whose memory is

ever green among his colleagues and former pupils everywhere. It is not now my intention to dilate on the great professional ability and the many virtues which characterized him, as these have already been related from this platform on more than one occasion, and by more eloquent lips than mine ; but I take this opportunity of stating that there exists among our graduates everywhere, and also in this city among the old friends and patients of our late lamented Dean, a strong feeling in favour of the establishment of a Howard Memorial Fund. This might take the shape of an endowment of some kind, and would be but a fitting tribute to the memory of one whose untiring exertions in the interest of this school and for the advancement of the profession generally in this country are universally recognized. The project has already been thought out, and will doubtless take some practical shape during the next few weeks.

Gentlemen, the profession of your choice is an arduous one, and full of responsibilities. It likewise demands from its members the greatest devotion and a large share of self-denial. On the other hand there is no calling which in itself tends more to elevate and refine its followers, nor in which one's life can be made so useful,—and what greater gift than that of daily usefulness to one's fellow-creatures. I think, likewise, we can claim for it that it is the most unselfish profession. Even Dr. Samuel Johnson, who was not an admirer of doctors, and who, you may remember, defined their profession as a melancholy attendance on misery, a mean submission to peevishness, and a continual interruption of pleasure, was still sufficiently generous to admit that he had found in physicians great liberality and dignity of sentiment, very prompt effusion of beneficence, and willingness to exert a lucrative art where there was no hope of lucre. There is no calling, besides, where the exercise of sympathy is more constantly demanded, and where, I believe, it is more freely yielded. You will do well, therefore, to cultivate kindness of heart and sympathy, and by so doing you will not only become better men and more attentive physicians, but you will win the esteem of those who employ you. Hospital practice, to which you have been accustomed, has a less refining influence on the

student than the old system of apprenticeship, where he was brought early in contact with the better classes. As beginners your practice for some time, however, will be chiefly confined to the poor, to whom be ever kindly in your manner and generous of your services.

In the discharge of your professional duties be always truthful, but withal, cautious. Always avoid haste in forming your conclusions. Nature does not reveal her secrets to the hasty or superficial observer. Having recognized a grave or fatal malady, exercise a prudent reticence else you may take away hope and thus deprive yourself of a powerful assistant in the future management of the case. Since the establishment of training schools, and the presence in almost every community of so-called professional nurses, the work of the practitioner is made infinitely easier and freer from anxiety. In order that the nurse may be the more helpful she should be made acquainted with the salient points in the case and also with the line of treatment, for thus you prepare her for emergencies, and the alarm which odd and unexpected symptoms often produce is prevented. You will constantly be obliged to entrust important cases to unskilled attendants. Here you should be most careful to give the plainest instructions, especially in surgical cases where hemorrhage or gangrene might occur. After the setting of fracture, for instance, take some trouble to point out to some intelligent person in attendance how the condition of the circulation should be tested. Thus may much unnecessary suffering and other unpleasant consequences be avoided.

I cannot impress upon you too forcibly the great necessity for constantly enlarging the knowledge which you have acquired here. Hitherto you have been really learning how and what to study. Continue, then, your habits of study. Remember that medicine is pre-eminently a progressive science, opening up day by day fresh fields for investigation. Every man, then, in our profession must be a student through his life. The one who remains stationary is really retrograding, when all around him are moving on in advance. Our task is, moreover, made doubly difficult, because we have to unlearn, as well as to learn. We

are obliged, every now and then, to discard, as useless, knowledge formerly acquired, to forget and throw away the debris of exploded theories, and the dry and useless husks of an obsolete practice. We see this illustrated every day in connection with the pathology of inflammation, of pulmonary consumption, of tubercle generally, and of tumours, etc. So the surgeon has had to unlearn the meaningless technique which, before the days of Lister, made him almost ridiculous. There is one great charm in the study of medicine which you will appreciate more fully as you go on, namely, its constant variety. Besides, it is so many-sided, bringing us into contact with so many other branches of human knowledge.

During your earlier years of practice you will have ample time to write up your cases and occasionally to publish them. The routine of general practice always affords many cases worth reporting and commenting on. Attend all meetings of medical associations held within a reasonable distance of your homes. There you will brush against men of varied experience, and will be afforded an opportunity of ventilating your own. It is in such assemblies that you learn to marshal your facts and to speak concisely.

Of late years it has become the custom—and a very good custom it is for those having the leisure and the wherewithal—to travel abroad for a time in order to prosecute their studies in a general or special way. I believe this is much preferable to beginning the studies abroad, because, on the whole, it is better that each man should receive his medical training in the country (meaning with us the continent) in which he intends to practice. Thus he gets to understand the constitution and habits of the people among whom he intends to spend his life, and can more easily adapt himself to circumstances. One of the greatest charms in connection with foreign study is that of meeting the giants in the profession of whom one is constantly hearing. Many graduates commit the error of limiting their travel to Great Britain. The great teaching centres on the continent, more especially those of Paris, Berlin and Vienna, should also receive a visit. Here unlimited facilities are offered for study

even with a limited knowledge of the language. With regard to the taking out of British and other qualifications, unless you can spend at least two years abroad I question the wisdom of such a procedure.

To the State you have a certain duty to perform in connection especially with preventive medicine. The local authorities will look to you to report cases of infectious disease and to advise them on sanitary matters generally. You will find a lamentable amount of ignorance even among the better educated regarding the simplest laws of health. Among the poor and ignorant there is usually no kind of knowledge on the subject. While your mission, then, will mainly be to cure the sick, much of your time will be occupied in preventing disease.

Until you become independent of practice (and I may warn you that few fortunes are made in our profession), you should eschew party politics. For each doctor who succeeds as a politician over twenty fail. In *medical politics*, however, you should at once begin to take an interest. Our chief want in this country at present is a Central Examining Board, sitting every year at Ottawa, which shall have the power to grant licences to practice medicine in any province in this Dominion. Indeed there is good reason for believing that if such a scheme could be instituted every country in the British Empire, including Great Britain herself, would reciprocate. Even at once, as graduates of this University, you can assist us in our endeavour to equalize the requirements of the various licensing bodies throughout the Dominion, so that we may be enabled to arrange our courses in accordance with the more advanced notions of medical education. You are aware that the tendency of all medical teaching is to decrease the theoretical and didactic teaching and to increase the practical. As a school we have been looking in this direction for years, but are hampered at every turn by the great diversity, with regard to requirements, that exists among the various provincial licensing bodies.

Lastly, I would impress upon you the necessity for cultivating the goodwill and esteem of your fellow-practitioners. You should study the Code of Ethics adopted a few years since by

the Canadian Medical Association. On entering any place with a view to practice, I would advise you to call upon two or three of the leading men in the profession and announce to them your intention to settle among them. Begin in a manly and straightforward manner and you will disarm opposition. Patients often cannot understand the good reasons underlying those admirable rules which we have adopted for our guidance and will ridicule our apparently straight-laced etiquette. Never mind that, but do your duty as gentlemen. The Code will show you a way out of every difficulty. Of course no rules can be made to govern every case.

Now, gentlemen, the time has come to say farewell. Be assured you have the best wishes of every member of this Faculty for a happy and prosperous career. *Always do the right thing*, and hereafter you will look back with those feelings of pleasure and satisfaction which a well-spent life never fails to afford. Farewell!

EXCISION OF THE CERVIX UTERI
IN CASES OF LONG STANDING LACERATION AND OF PROLIFERATING
ENDOMETRITIS. (NINETY-ONE CASES.)

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Probably the greatest advance made in uterine surgery of late years has been Emmet's trachelorrhaphy for the repair of laceration of the cervix uteri. Before Emmet's genius had worked reform in the treatment of this lesion, afflicted patients were subjected to the enforcement of various blind routine procedures, which we at present do not feel very proud of. But although the key-note of reform in this matter was first struck by Emmet, it is no reason why we should rest content and abstain from effort at still greater improvement in methods for the repair of the lesion in question. Several years ago I recognized the difficulty of obtaining good results by Emmet's method in cases of old standing lesions, where great eversion had existed, and where connective tissue hypertrophy with extensive cystic disease were present. On removal of the tissues at the margins and high up in the angles of the tear, an elevated central plateau of diseased gland and connective tissue structure, situated in the centre of each lip, was left. When these central ridges had been tightly approximated by the application of the sutures, two serious defects became obvious. No provision for drainage after curetting the uterine cavity, and tension so extreme was brought to bear upon the sutures, that in many cases the ones nearest the apex cut out, and allowed a bad ectropium to result. Probably Dr. Emmet does not curette the uterus at the same sitting, and therefore would not require to provide for drainage; he may also introduce his sutures in such a manner that they do not cut out so frequently as in other and less skillful hands. Be this as it may, results were always excellent in recent cases, but were not so in the more chronic.

It occurred to me about this time that the defect may have been in the pathology and that we had not due regard for the diseased ridges left in the centre of each cervical segment, and from this standpoint the operation was really only partially exe-

cut. Again, although we took away a large slice on each side and the cicatricial plugs in the angles, we left a much more densely diseased central portion. How now to get over this difficulty (*i.e.*, how to remove the central portion of diseased structure without committing the surgical crime of so-called mutilation) was a problem which occupied my mind until Schröder's method of dealing with catarrhal erosions occurred to me.

It will now become apparent to all who are familiar with Schröder's method that not only the sides and cicatricial angles, but also the diseased central ridges before alluded to are removed, and flaps formed from the portio-vaginalis. It will, however, be recognized that the operation virtually amputates the cervix close up to the internal os uteri, and that thereby the patient is deprived of her cervix and its functions, whatever they may be. This brings us to an important question relating to this subject. What are the physiological functions of the cervix uteri? Every gynaecologist is familiar with its pathological bearing, but can any one ascribe a useful part played in the sexual economy by the ordinary diseased cervix seen every day at our clinics? I know from experience that it plays a dangerous part in parturition. In the direct ratio of its length and connective-tissue disease so is the labour prolonged and the suffering intensified. We know that its laceration during labour opens up a channel for infective material to become absorbed, the serious results of which we are all familiar with. Again, when there is an abnormally short posterior vaginal wall, or when the pelvic floor has been impaired by labour, the elongated or enlarged cervix will, by its descent on the posterior vaginal wall, become tilted forwards, and consequently the fundus and body will be dropped backward into retroposition. I have become aware of this strange fact from observing that the uterus in such cases has shown a tendency to struggle backward after shortening the round ligaments, but have never observed this tendency on the part of the uterus when the cervix was excised at the same sitting, for the uterus in the latter instance always remained in a position of extreme anteversion.

There are other reasons why we should encourage the removal of the abnormally long or diseased cervix. It is an acknowledged

cause of sterility. It tends to convey infection—gonorrhœal and other—to more vital parts. It is the seat *par excellence* of catarrhal inflammation in the delicate young, and malignant disease in the middle aged. Also, the extreme state of general debility and anæmia which fungus endometritis will induce, associated either with a diseased intact cervix or badly lacerated one, calls, I think, for the total removal of all the diseased endometrium. When we consider that the infantile uterus is composed chiefly of cervix and fundus, and that the body becomes developed as the individual advances to puberty, it can be easily understood that anything which interferes with developmental evolution will give an abnormally long cervix, dense in texture and conoid in shape. We must therefore look upon a cervix of this nature as an abnormality and not as an essential to the economy. Given, then, that the cervical portion of the uterus is often a source of trouble and danger to the individual possessing it, what will be the consequences of its extirpation? We may confine ourselves here to the part it plays in three phenomena, viz., fecundation, pregnancy, and labour. As regards the first, its removal will tend to cure the existing sterility, should this be due to an elongated conoid cervix. From clinical observation I know that it does not interfere, one way or the other, with the progress of pregnancy. During this period my observations have not led me to notice any change different from that under other circumstances. When labour begins, however, we do observe phenomena differing from those seen in ordinary cases. I have had the opportunity of attending several obstetric cases which had been previously operated upon, and in all, certain peculiar phenomena were strongly alike. The patient at her expected time would feel some uneasiness and discomfort. She would probably admit that a pain or two had been experienced, and thought it necessary to send for her physician. On arriving at the bedside, the bag of membranes are, to his astonishment, felt to be occupying the vaginal ring, and only arrested in its downward course by the perineum. No cervix or cervical canal can be reached; nothing, in fact, but a large bag of water occupying the vagina, through which the presenting part can be felt. The patient up to this point has practically not had a

severe pain and feels remarkably comfortable. The membranes are now ruptured by the physician and the head immediately begins to descend. These phenomena have been so constant in the cases I allude to that we cannot avoid the temptation of denominating the occurrence as "labour without pain," which in point of fact it truly is. Whether, now, this rapid painless labour is an advantage or not, is a matter for careful consideration. My own personal experience in this respect has been too limited to enable me to express an opinion which would be of any value. I can only say that in the cases I attended I experienced great satisfaction to myself and advantage to the patient. One advantage excision of the cervix has over restoration of the part is, that laceration can never occur during future labours, and consequently the liability to infection from without becomes practically nil. It cannot be denied that the practice so much in vogue of forcibly dilating the cervix during the first stage of labour is often a cause of septic infection and its ill-fated sequelæ. I will not here go into the phenomena of pain or its cause during childbirth, but it is well known to all observers the great difference in degree of suffering experienced by women in this state, and it has often suggested itself to my mind that a very dense unyielding cervix would require, and institute, powerful expulsive contractions on the part of the uterus to overcome that resistance which was directly proportionate to the density and length of the cervix.

In conclusion, I will describe a few points in the technique of the operation. I have performed it now in ninety-one cases. In none of these has there been a single rise of temperature above normal on or after the second day following the operation. I therefore consider it an absolutely safe procedure and it should have no mortality. The patient is placed in the exaggerated lithotomy position and the vagina made aseptic. The cervix is pulled down and dilated with a powerful steel dilator, and the endometrium thoroughly curetted with Martin's sharp curette until the ring of the instrument is distinctly heard upon the muscular walls of the uterus. All the mucosa having been thoroughly removed, the cervix is split up on each side by straight

scissors to the vaginal vault. A scalpel is then drawn across the base of the lower segment of the cervix until is severed to the vaginal mucosa. A straight bistoury is then made to transfix the cervix from its lower end in such a way that the point of the bistoury emerges in the centre of the transverse incision previously made, and cuts outward each way. The flap is then trimmed off with scissors; silkworm gut sutures are passed from within the cervical canal outwards (two in number) and tied. The upper segment of the cervix is treated in the same way, and the operation finished by passing one suture on each side to close the gaping angles. This operation leaves a large open canal for drainage, and should be performed, including the curetting, in about fifteen minutes. The only special points in connection with the operation are: you must have specially curved needles and very strong; a very thin, straight bistoury for transfixing; silkworm gut sutures I have most often used, but lately I have been using sterilized catgut, and although I cannot work quite so rapidly as with silkworm gut, it has the advantage of disappearing by absorption in the course of eight or ten days. Silkworm gut also is liable to cut through the tissues and cause secondary hemorrhage. The dangers of the operation may be summed up in one word—"hemorrhage." You must work rapidly, as the blood loss is continuous and profuse, and can only be arrested by the application of the sutures. This is the reason I recommend one segment of the cervix to be done at a time. I have had three cases of secondary hemorrhage occurring on the sixth day, all due to the cutting through of the flap tissue by the silkworm gut, and in all of these cases I had to secure the flap again by suture. I would warn against loss of time with styptics and the tamponade. They will not arrest the hemorrhage and may endanger your patient through extreme loss of blood. Since I have been using catgut as suture material I have not had this accident.

No. Age	M. or S.	Children.	Mis- car- riages	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
1 29	M.	1	2	Menorrhagia and muco- purulent leucorrhoea.	Severe headache with morning vomiting. Backache very severe.	Large bulbous cervix lacerated; extensive cystic disease.	Schroeder's excision of cervix uteri.	Headache gradually disappeared. Nausea and slight backache only at periods. Gen- eral health became very good.
2 33	M.	2	1	Dysmenorrhoea, scanty flow; profuse inter- menstrual leucorrhoea.	Severe bearing down pains. Backache, ex- treme debility, lassit- ude, palpitation, breathlessness, and loud systolic bruit.	Uterus anteverted. Cer- vix lacerated bilater- ally. Extensive ectropion and cystic disease. Chronic metritis.	Emmet's trachelor- rhaphy performed De- cember 15th, 1895, with temporary benefit. July, 1896, found that ectropic condition of cervix had reappeared. Performed Schroeder's operation. Present condition of health excellent.	This case exemplified the error of doing Emmet's operation for the relief of con- ditions due to chronic metritis, hyperplastic endometritis, and ex- tensive cystic disease of an old lacerated cervix.
3 41	M.	5	4	Menorrhagia for the last three or four years. Leucorrhoea profuse.	Severe pain in back. Headache constant. Constipation. Vesical irritation. Great de- bility and anaemia.	No tenderness over broad ligaments or ovarian region. Vagina patulous. Uterus ante- verted, enlarged, ten- der, and excessively hard. Cervix bulbous. Extensive cystic dis- ease, result of an old bilateral laceration cicatrised.	Sharp curetted endo- metrium and did Schroeder's amputa- tion June, 1892. Result good. Menopause ar- rived one year after- wards. Present con- dition of health ex- cellent.	
4 24	M.	1	1	Menorrhagia. Leucor- rhoea profuse. Dys- menorrhoea.	Extreme prostration. Headache, backache, anorexia, nausea at times, anaemia.	Bilateral laceration of cervix. Extensive pro- liferating endometri- tis, ectropion. Uterus anteverted. Cervix bleeds freely on being touched.	Schroeder's amputation of cervix. Health re- stored. Present health good.	Normal labour two years after operation.

No. Age	M. or F.	Children	Miscellaneous	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
5 26	M.	1	2	Menstruates every 3 weeks; flow not excessive; with severe pain; leucorrhoea.	Complains of constant headache and pain in left iliac region. Facial neuralgia, headache and general debility.	Uterus fixed in retroflexion. Fundus very tender. Bilateral incarceration of cervix. Hyperplastic endometritis.	Aug. 1884. — Elastic traction and massage restored uterus to its normal position in three months. Performed Schroeder's amputation of cervix. Symptoms complained of have disappeared. Health good at present.	Uterus fell again into retroversion, but as patient suffers no inconvenience from it, no further treatment has been undertaken.
6 48	M.	6	2	Menorrhagia.	Pelvic pain, double vision, weak condition of sight and general prostration.	Bilateral lacer. of cervix. Cicatricial corners. Extensive cystic degeneration and bulbous form of cervix.	Oct. 1888. — Cured endometrium and excised diseased cervix. Result good. Patient returned Jan. 17th, 1891. Uterus atrophic in normal position. No cervix vaginal prolapse, result of old lacer. of perineum. States health has been excellent until six months ago, when she first complained of a bearing down sensation.	Will put patient at rest and do anterior and posterior colporrhaphy.
7 44	M.	5	8	Menorrhagia.	Complete loss of health. Severe pelvic pain of bearing down character and inability to empty rectum.	Cervix enormously hypertrophied. Stellate lac. of cervix. Cicatricial corners. Extensive cystic degeneration.	Oct. 11, 1896. — Cured endometrium excised diseased cervix. Result good. Patient underwent office treatment during following year and has remained in good health ever since.	

8	24	M.	7 Six births	0	Menorrhagia and leucorrhoea profuse.	Severe pain in back aggravated on walking; frequent micturition and headache.	Cervix lac. constricted; extensively eroded.	Jan. 15, 1896.—Excised diseased cervix according to Schroeder's method. Result good.	Patient has borne one child since. Labour normal.
9	43	M.	4	0	Menorrhagia, leucorrhoea.	Suffers from severe dysmenorrhoea, and irritation of bladder, backache, general prostration.	Extensive hypertrophy of cervix; irregular lac. with fleshy band running across cervix in lateral direction. Submucous fibroid in posterior wall of cervix.	Jan. 7, 1896.—Excised the small fibroid. Performed Emmet's operation on the perineum. Patient returned Jan. 1898 on account of menorrhagia. Endometrium was curetted. Iodized phenol was injected.	This patient has borne one child since, and is now in perfect health.
10	28	M.	4	1	Menorrhagia, leucorrhoea.	No dysmenorrhoea; chief pain situated in the back; it renders her unable to leave her bed without assistance. Headache right side, running up and nausea frequent. General prostration and loss of health.	Extensive bilateral lesion of the cervix. Great connective tissue hypertrophy. Cystic degeneration. Lac. on right side, running into the base of the broad ligament.	Oct. 10, 1898.—Curetted endometrium; excised diseased cervix. Results good.	This patient had some months of office treatment following the operation. The cervical discharge gradually ceased and she has been ever since in robust health, happy but occasional pain at her periods. She has not, however, become pregnant.
11	28	M.	0	0	Menorrhagia, severe dysmenorrhoea and leucorrhoea.	Complains of severe pain in the back; intense headaches.	Uterus anteverted somewhat, fixed in the pelvis. Cervix conoid and elongated, drawn upwards and backwards into posterior fornix by inflammatory contraction. Utero-sacral ligaments. Extensive catarrh and erosion of cervical mucous membrane.	Jan. 18, 1898.—Divulsed curetted and removed cervix by Schroeder's method. Result good.	This patient had been a chronic invalid for years, and had been under various forms of treatment during that time. She did not show evidence of much improvement immediately after the operation, but after one year had elapsed she became markedly improved in health, and has been ever since a very active woman and has enjoyed perfect health.

No. Age	M. or S.	Children.	Miscarriages	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
12 33	M.	2	0	Menorrhagia, leucorrhoea profuse.	Pain in the back; no dysmenorrhoea; has always had pain in left iliac region. Late-ly has suffered from severe colicky pains, necessitating going to bed and applying hot applications.	Uterus retroverted, mobile. Pelvic floor impaired from lac.; vaginal walls and perineum. Cervix left lateral laceration. Hyperplastic enlargement and cystic degeneration.	Jan. 10, 1888.—Excised diseased cervix, sharp curetted the endometrium.	This patient suffered for some time after the operation from nervous prostration, presumably due to intercurrent attacks of diarrhoea. She, however, eventually regained her perfect health with the aid of seaside changes. A month ago she returned to me, however, suffering from the same exhausting diarrhoea and feeling of pelvic descent, due no doubt to the retroverted and prolapsed uterus. I will now do colpo-perineorrhaphy and shorten the round ligaments.
13 21	M.	2	0	Leucorrhoea very profuse. Has just weaned last baby and has not menstruated since birth.	Severe pain in back and sides and running down thighs. Pain across hypogastrium, headache. Bladder functions normal. Has been in extreme state of anaemia since birth of last baby. Temperature normal, but pulse very rapid.	Uterus in normal position and no evidence of pelvic inflammation. Cervix lac. (bilateral) and extensively eroded. Endometritis and profuse bloody mucoid discharge.	March 3 (after three months' preparatory treatment)—Curetted and performed Schroeder's excision of cervix. Result good.	This patient had very rapid return of health, has borne a child since, and enjoys excellent health at present.
14 57	M.	8	0	Menstruation regular; very profuse; duration six days; quantity large. Leucorrhoea profuse; dysmenorrhoea.	Backache, frequent micturition. Debility and nervous prostration.	Perineum lac. Vagina relaxed. Uterus anteverted. Chronic lateral lac. Cervix bi-lateral and eroded. Endometritis.	Cervix. Schroeder's excision. Result good.	A year after operation patient reports herself in good health.

16	43	M.		4	0	Menstruation regular; menorrhagia; leucorrhoea.	Severe backache; nervous prostration and anaemia from loss of blood; dysmenorrhoea.	Uterus anteverted. Uterine walls, thickened, hard and tender (chronic metritis). Cervix very large and bulbous from old standing bilateral lac.	Dilated cervix; sharp, curetted Schroeder's excision of cervix.	This patient returned six months after wards complaining of menorrhagia. Was again curetted and easily infected with iodine. Reported in good health one year since last operation.
16	26	M.		1	1	Menorrhagia every 3 weeks; dysmenorrhoea; leucorrhoea.	Constant backache. Constant neuralgic headache. Debility and general nervous prostration.	Cervix very much congested, enlarged and slightly lac. Lac. chiefly internal. Uterus anteverted and mobile.	Schroeder's excision.	Reports herself well twelve months after wards.
17	28	S.		0	0	Menorrhagia three weeks; dysmenorrhoea severe; leucorrhoea.	Great prostration; constant backache and bearing down pain; cannot walk without great suffering.	Parts vaginal. Uterus very low down in axis of outlet, retroverted. Cervix elongated, os dilated. Glairy mucous discharge, endometritis.	Schroeder's excision of cervix. Uterus drawn up by shortening round ligaments.	This patient returned to work in a factory two months after operation, and has remained well since.
18	28	S.		0	0	Regular; menorrhagia; leucorrhoea.	Frequent micturition. Severe pain in back and hypogastrium. Difficulty in walking without pain.	Parts vaginal. Uterus retroverted and fixed in pelvis, exudation, mass in Douglas's fossa. Cervix elongated.	Schroeder's excision and round ligaments shortened, after two months rest in bed and preparatory treatment.	This patient reports herself in good health six months after wards.
19	28	M.		1	0	Menstruation every three weeks. Menorrhagia; leucorrhoea.	Pre-menstrual dull dragging pain in hip and back. Periodical intense headache, occurring every week. Nausea and occasional vomiting. Nervous prostration.	Cervix bilateral laceration, eroded and anteverted. Uterus retroverted. Endometritis, glairy discharge.	Schroeder's excision, and uterus drawn up by shortening round ligaments.	
20	26	M.		1	0	Menstruation irregular (every five weeks), scanty; severe dysmenorrhoea; leucorrhoea.	Constant pain in back and other parts of the body. Legs ache all the time. Headache severe. Intense prostration and debility.	Granular vaginitis. Cervix bilaterally lac. Eversion and erosion. Uterus retroflexed and excessively tender.	Schroeder's excision and shortened round ligaments.	This patient is now acting as a nurse in perfect health.

No.	Age	M. or S.	Children.	Mis- car- riages	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
21	37	M.	2	1	Profuse and very painful.	Severe pain in back, iliac region and head-ache.	Prolapse of vaginal walls. Uterus retroverted; cervix bilaterally lacerated and hypertrophied.	Excised cervix, anterior and posterior colporrhaphy and shortened round ligaments at second operation. Result very good.	
22	49	M.	1	0	Menorrhagia, painful, scanty, leucorrhœa.	Severe pain in back, iliac regions and hypogastrium; head-ache.	Pelvic floor destroyed. Anterior and posterior vaginal walls prolapsed; cervix bilaterally lacerated, eroded and contains a small fibroma in wall of posterior segment.	Excised cervix, anterior and posterior colporrhaphy. Result very perfect.	Operation three years ago. Patient has continued in excellent health.
23	32	M.	0	0	Regular, profuse, severe pain, backache, and always pain on sitting down.	Very profuse; clayry, mucoid discharge; severe dysmenorrhœa and constant back-ache.	Enormous hypertrophy of cervix erosion extending to junction of cervix with vagina (Trophilating endometritis.)	Excised cervix (high amputation). Result very good.	This was an interesting case in the extreme degree of disease of the cervical glands, with such extensive hypertrophy simulating epithelioma. No return in three years.
24	40	M.	1	2	Menorrhagia (every 2 weeks), profuse, intermenstrual, leucorrhœa.	Severe pain in right iliac region, back and down thigh. Head-ache and pain down back of neck.	Cervix enormously hypertrophied; bilateral laceration with erosion.	Cervix excised and endometrium curetted. Result very good.	This patient constantly heard from during past three years. Reports in excellent health.
25	32	M.	4	0	Menstruation every 3 weeks; very profuse, quantity large; leucorrhœa.	Confirmed, invalid since birth of last child, one year ago, from constant pelvic pain. Brought to hospital on stretcher unable to stand.	Uterus low down, retroflected, unilaterally lacerated. Chronic metritis; vaginal wall and cavity large.	Excised cervix; posterior colporrhaphy and shortened round ligaments. Result excellent.	This patient has been constantly heard from during past 3 years. Her health continues excellent.
26	30	M.	1	1	Menorrhagia every 3 weeks; leucorrhœa.	Severe dysmenorrhœa; unable to work from constant pelvic pain.	Cervix elongated and eroded; chronic endometritis; uterus retroverted.	Rapid dilatation, curetting and excision of elongated cervix. Result not good.	Patient somewhat relieved by the rest necessary, but with no return of health, and evidence of tubal and ovarian disease.

27	25	M.	1	1	Menorrhagia, leucorrhoea, dysmenorrhoea.	General loss of health; pain in back, sides and hypogastrum.	Uterus somewhat fixed and some localized peritonitis. Has had Emmet's trachelorrhaphy performed during the past year without benefit; cervix found much hypertrophied and laceration everted. Perineum badly lacerated.	After some preparatory treatment, performed Schroeder's excision of cervix and flap spitting operation of perineum.	Result in this case was most satisfactory. Patient recovered her health completely.
28	34	M.	2	0	Menorrhagia and dysmenorrhoea.	General debility and prostration; pain in back and limbs; headache constant and vomiting at onset of menstruation.	Uterus in anteversion; cervix bilaterally lacerated and segments everted; chronic metritis.	Schroeder's excision of cervix. Result very good.	Patient heard from occasionally. Did not make a rapid recovery, but eventually became quite well.
29	21	M.	0	0	Menstruation regular, profuse and free from pain.	States that she consults me only on account of her sterile state.	Slight vaginitis; cervix much elongated and conoid in shape; extensively eroded and covered with glairy mucous discharge. Catarrhal endometritis.	Excised cervix, dilated with steel instrument and sharp curetted cavity.	Lost sight of this patient and cannot tell whether or not she has become pregnant as result of operation.
30	29	S.	0	0	Menstruation regular, but very profuse; leucorrhoea; discharge also profuse; frequent headaches; severe dysmenorrhoea.	Vaginitis; uterus in normal position; no inflammatory condition; cervix elongated; extensive catarrhal erosion covering a great part of the vaginal cervix.	Removed cervix; dilated (rapid) and curetted endometrium. Result good.	Removed cervix; dilated (rapid) and curetted endometrium. Result good.	This patient has been seen several times since treatment, and has been relieved from the symptoms complained of.
31	37	M.	0	0	Menstruation over frequent; not excessive in quantity nor duration. Before marriage suffered severely from dysmenorrhoea, but not since.	Leucorrhoea very profuse; complaints chiefly of great prostration and backache; asthenopia.	Position of uterus normal; cervix bilateral laceration; extensive hyperplasia and ectropium. Cystic disease; chronic metritis. Perineum fairly normal.	Dilated cervix; curetted endometrium and excised cervix. Result very good.	Patient found in very robust health one year afterwards.

No.	Age or S.	Children	Mis- car- riages	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
32	22	0	0	Menstruation every 3 weeks, painful and profuse.	Complains of general debility, headache, leucorrhœa, and asthenopia; irritability of bladder.	Uterus somewhat tending to a backward inclination; cervix high up and some tension on broad ligaments. Tenderness of pelvic floor generally, but mass palpable; cervix eroded and discharging glairy mucus.	Dilated cervix with steel dilators; curetted endometrium and excised, elongated and eroded cervix. Result good.	This patient returned six months after operation for examination. There was no discharge from the uterus. Parts look perfectly healthy. No tenderness of pelvic floor. Patient was happy and in good general health.
33	42	7	0	Regular but profuse dysmenorrhœa.	Asthenopia; complains of extreme exhaustion, vertigo, pain in back and left iliac region.	Perineum lacerated; vagina gaping; pelvic floor destroyed; bilateral laceration of cervix; enormous hypertrophy and cystic disease of cervix; uterus large and anteverted.	Excised cervix (high) and repaired perineum. Result good.	
34	30	2	0	Menstruation regular, sometimes profuse.	Severe backache, headache; occasional attacks of vomiting.	Perineum lacerated; cervix bilateral laceration; uterus retroverted; pelvic floor very sensitive to pressure. Prolapse of anterior vaginal wall; urethrocele.	Schroeder's excision of the cervix; flap splitting operation on the perineum. Emmet's buttonhole operation on the urethra. Result good.	This patient was seen a year after treatment, and she stated that she was in very good health. Uterus remained retroverted which caused her some backache at times.
35	31	2	0	Menstruation regular; leucorrhœa.	Severe pain in hypogastrium and back. Severe headache; during menstruation severe vomiting attacks; irritable bladder.	Uterus retroverted; very tender and incarcerated in the pelvis. Posterior lip eroded, hypertrophied and cystic, perineum lacerated and vagina very lax.	Schroeder's excision. Curetted endometrium. Flap splitting perineorrhaphy and shortening of round ligaments. Result very good.	This patient seen one year after operation, and with the exception of a very occasional headache, her health is very good. Uterus found anteverted.

38	45	M.	1	2	Menstruation irregular; sometimes three weeks, and sometimes six weeks. No dysmenorrhoea; no leucorrhoea. Pain in back and left side. Severe head-ache.	Great prostration; severe back and head-ache, anorexia and anemia.	Perineum and pelvic floor destroyed; uterus down in retro-flexion; heavy, bulky and elongated cervix. Prolapse of both anterior and posterior vaginal walls.	On account of pro-found anemia and cardiac bruit only Schroeder's excision of the cervix and shortening of the round ligaments were done. Hegar's perineor-rhaphy was deferred for another sitting.	This patient, seen a year afterwards, was in most excellent health. Uterus ante-verted, but low in the pelvis. Patient has promised to have perineorrhaphy done.
37	38	M.	0	8	Menstruation regular; dysmenorrhoea; profuse leucorrhoea.	Severe backache, head-ache and loss of gen-eral health.	Bilateral laceration of cervix; great eversion and hypertrophy of cervical segments. Uterus anteverted, but low in the pelvis; vagina patulous; pel-vic floor destroyed; extensive prolapse of vaginal walls.	High Schroeder's ex-cision of cervix, en-dometrium curetted, anterior colporrhaphy and Hegar's posterior colporrhaphy. Results good.	This patient was seen one year afterwards, in excellent health and free from former troubles.
38	27	M.	1	0	Menstruation very pro-fuse; returning every other week; dysmen-orrhoea, leucorrhoea profuse, frequent mic-turition.	Frequent micturition; has suffered from ma-larial fever in Flor-ida; at monthly peri-ods tonsils swell and become very painful; constant and severe headache; nausea and vomiting at times.	Uterus enlarged; chronic metritis; bi-lateral laceration of cervix; great eversion and cystic disease; endometritis.	Schroeder's excision of the cervix. Tail's flap splitting of the per-ineum. Result good.	One year afterwards this patient reports herself in good health.
39	30	M.	3	6	Menstruation regular; some dysmenorrhoea; leucorrhoeal discharge	Extreme prostration; pain in left side and back; great nervous irritability and hallu-cinations.	Perineum lacerated; bilateral laceration of cervix; hypertrophied everted and cystic; Uterus anteverted; extreme tension on utero-sacral liga-ments.	Schroeder's excision of the cervix, perineum restored by flap spit-ting method.	This patient appeared much improved in general health one year afterwards.
40	35	M.	1	0	Menstruation regular; severe dysmenorrhoea.	Severe pain in back, hypogastrium and iliac region. Irritability of bladder.	Uterus strongly ante-verted; bulky and sensitive to touch. Cervix lacerated, en-larged and extensively cystic, muco-purulent discharge; perineum lacerated.	Schroeder's excision of the cervix; sharp curetting of the en-dometrium; flapsplit-ting operation on the perineum.	One year after opera-tion, patient reports very good health.

No. Age	M. or F.	Children	Mis- car- riages	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
41 38	M.	6	4	Menstruation regular; leucorrhoeal discharge; some dysmenorrhoea.	Extreme exhaustion; anemia and constant headache; severe backache.	Perineum lacerated and pelvic floor much impaired; uterus an- teverted; cervix lacer- ated; segments evert- ed and cystic.	Schroeder's excision of the cervix; endomet- rium curetted and flap splitting on perineum. Result good.	Patient seen one year after operation in perfect health and able to work without inconvenience.
42 37	M.	4	0	Menstruation every 3 weeks; profuse dys- menorrhoea.	Severe pain in lower part of spine and left hip; severe headaches. Irritability of bladder.	Perineum lacerated; vagina very lax and large; cervix much enlarged; extensive left lateral laceration. Cystic degeneration and varicose condi- tion. Uterus ante- verted and somewhat fixed by inflammatory exudation.	Schroeder's axcision of cervix; flap splitting operation on the per- ineum. Result good.	
43 37	M.	3	0	Menstruation every 3 weeks; leucorrhoea profuse.	Constant bearing down feeling, headache, con- stipation, flatulence.	Perineum lacerated; vagina very lax; walls prolapsed; uter- us retroflexed but easily replaced; cer- vix badly lacerated; proliferating endo- metritis.	Schroeder's excision of the cervix; curetting endometrium; flap splitting operation on the perineum. Short- ening of the round ligaments (at the same sitting).	Patient in very good health one year after operation.
44 38	M.	6	0	Menstruation regular; no dysmenorrhoea; menstrual loss large.	Headache severe; con- stant nausea; also backache; nervous prostration and anae- mia.	Perineum lacerated; vaginal walls pro- lapsed; uterus retro- flexed; cervix en- larged; posterior seg- ment cystic.	Schroeder's excision of the cervix; endomet- rium curetted; an- terior and posterior colporrhaphy; round ligaments shortened (one sitting, one hour and 10 minutes).	Very good health one year afterwards.
45 35	M.	4	6	Menstruation regular.	Has severe pain in left side and hypogas- trium; general pros- tration and much nervous irritability.	Perineum lacerated and pelvic floor im- paired; vaginal walls prolapsed; uterus an- teverted; cervix lacer- ated; segments hyper- trophied and everted.	Schroeder's excision of cervix; flap splitting on the perineum. Re- sult very good.	Patient not been heard from.

46	33	M.	4	0	Menstruation regular; leucorrhoeal discharge profuse.	Severe pain in back and left side; pretty severe headache; frequent micturition; constipation; complaints of distressing nightmare nearly every night.	Perineum lacerated; cervix lacerated; segments inverted; cystic disease and hypertrophied; uterus anteverted.	Schroeder's excision of the cervix; endometrium curetted; perineum repaired; flap splitting operation.	Patient in excellent health when last seen.
47	34	M.	0	0	Menstruation every 3 weeks; quantity large; duration four days.	Severe premenstrual pain over hypogastrium; pain constant in left iliac region; headache and constipation.	Uterus in normal position, freely movable; cervix hypertrophic and enlarged.	Rapid dilatation of cervical canal; incision of internal os; Schroeder's excision of the cervix.	
48	36	M.	5	0	Menstruation regular, but scanty; free from pain.	Complaints of profuse leucorrhoeal discharge; pain in back and bearing down feeling. General loss of health and nervous prostration.	Perineum lacerated; vaginal walls very lax; cervix large; bulbous and cystic; Uterus of normal size but anteverted.	Endometrium curetted. Cervix excised; perineum repaired; flap splitting operation. Result very good.	Patient, when last seen, was in excellent health.
49	34	S.	0	0	Menstruation regular; sometimes profuse.	Complaints of intense headache for some years back. General debility and nervous prostration.	Uterus extremely ante-flexed and very tender to examining pressure and somewhat enlarged; cervix eroded around os; catarrhal endometritis.	Rapid dilatation of cervix; endometrium curetted; cervix excised. Result very good.	Latently reported in excellent health.
50	30	M.	4	0	Menstruation every 3 weeks; quantity large.	Severe bearing down pain; constipation profuse; leucorrhoea; headache and loss of health.	Vagina very lax; outlet extremely patulous; pelvic floor destroyed; uterus anteverted; great tenderness over pelvic floor; cervix lacerated, inflamed, everted and very cystic; endometrium bleeds freely; uterus low down in the pelvis.	Schroeder's excision of the cervix; endometrium curetted, anterior colporrhaphy, flap splitting, perineorrhaphy.	Patient in good health when last heard from.

No. Age	M. or S.	Children.	Mis- car- riages	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
51 35	M.	2	0	Menorrhagia every 2 weeks; quantity large.	Dysmenorrhoea, severe backache and general prostration and inability to do house work.	Perineum lacerated to sphincter; cervix extensively eroded and connected; uterus in retroversion, but easily replaced.	Curetting, Schroeder's excision of cervix, perineorrhaphy and shortening round ligaments. Time operating, 52 minutes.	Result very good.
52 34	M.	4	1	Regular but excessive in quantity; leucorrhoea profuse.	Severe pain and bearing down sensation in pelvis, general loss of health.	Perineum lacerated and pelvic floor destroyed; cervix lacerated and extensively eroded; uterus ante-flexed, but low down.	Curettement, Schroeder's excision of cervix, anterior colporrhaphy and flap splitting perineorrhaphy.	Very good. Health restored some months afterwards when seen.
53 31	M.	3	0	Menstruation regular, painless, but with constant headache; leucorrhoea profuse.	Extreme debility and subject to hysterical convulsion attacks; complaint of bearing down sensation; continual pain in back and hypogastrium.	Vaginitis; perineum badly torn; vagina open and gaping; pelvic floor much injured; uterus lying in retroversion into right side of pelvis; cervix bilaterally lacerated and congested. Proliferating endometritis.	Curettement; excision of cervix, Hegar's colporrhaphy.	Result very good. Has had a gradual lessening of hysterical attacks. They have now entirely disappeared.
54 31	M.	4	1	Menstruation every 2 weeks; duration 8 days; quantity large. This condition has existed during past four years.	Dysmenorrhoea; severe backache, which is constant; very anæmic state from constant loss of menstrual blood; patient extremely prostrate and exsanguinated.	Uterus in normal position; left ovary enlarged and tender; cervix bilaterally lacerated; proliferating endometritis; perineum lacerated.	Curettement; excision of cervix; perineorrhaphy (flap splitting operation).	This patient began to recover her blood and general strength immediately after leaving my hospital, and has been in most excellent health ever since. Menstruæes regularly.
55 38	M.	4	2	Menstruation regular, but scanty; leucorrhoea profuse at times.	Severe prostration and general debility; dysmenorrhoea severe; backache and headache constant. Unable to do housework.	Cervix enormously hypertrophied from long standing; bilateral laceration and cystic disease; perineum lacerated and pelvic floor impaired; uterus enlarged; and retroverted to 30°.	Dilatation of cervical canal and curettement; high excision of cervix; flap splitting, perineorrhaphy and round ligaments shortened.	Result excellent. Uterus remains in anteversion and well supported by pelvic floor.

56	40	M.	7	3	Menorrhagia every 3 weeks; quantity large; duration 8 days; profuse leucorrhoea.	Extreme prostration and general debility; backache, headache; unilateral femoral neuralgia which is constant.	Perineum badly lacerated, but pelvic floor in fair preservation; cervix bilaterally lacerated and very much hypertrophied.	Curettement, excision of cervix and perineorrhaphy.	Result very good. Patient has been in very good health, doing her own housework since operation, now one year.
57	38	M.	8	2	Menstruation every 3 weeks; quantity large; duration eight days; leucorrhoea.	Complete loss of health during the past ten years. Nervous prostration; constant headache and backache.	Perineum torn through into rectum; small fibrous band taking place of sphincter; little or no control over contents of rectum; cervix bilaterally lacerated, eroded and enormously hypertrophied; uterus low down and retroflexed.	High excision of cervix; curettement; perineum and sphincter restored by flap splitting operation. On account of extremely prostrated condition of patient it was thought advisable to shorten round ligaments at a future operation, ten days afterwards, which was done.	Result a perfect rectum and sphincter quite restored, giving a high, strong perineum. Uterus strongly anteverted. Patient completely restored to health. Stated she had suffered ill health for 18 years, since the birth of first child, when perineal rupture occurred.
58	27	M.	0	1	Menstruation irregular; generally every six weeks; quantity small.	Severe dysmenorrhoea, backache and headache; profuse leucorrhoea, loss of health; uterus anteverted; left ovary enlarged, but not fixed though very painful to pressure; no induration behind uterus; chronic metritis.	Uterus enlarged and anteverted; extreme tenderness of left iliac region on pressure; cervix conoid elongated; os small (pin hole), and cervix strongly flexed on baby; proliferating endometritis; mucopurulent discharge from os.	Preparatory treatment of rest in bed. Then dilatation of cervix canal; curettement and high excision of cervix. Bilateral incision of internal os, gauze drain in cervical canal for 24 hours.	Result excellent. Patient several months afterwards was free from dysmenorrhoeal pain, and was in robust health.
59	33	M.	3	1	Menstruation regular, but painful.	Almost complete loss of general health and nervous prostration; contents of bowel have for years passed through the vagina as well as through anus.	Bilateral laceration of cervix with hypertrophy. Laceration of perineum to muscle. Large oval recto-vaginal fistula situated at about two cm. from anal opening, through which tip of index finger can be passed; uterus in normal position.	Curettement, excision of cervix; perineum and recto-vaginal septum split to 2 cm. above fistula and perineal sutures so placed as to obliterate continuity of rectal vaginal opening of fistula by overlapping of the parts.	Result perfect. Strong high perineum and complete obliteration of fistulous opening. Patient's health completely restored.

No. Age	M. or S.	Children	Miscarriages	Menstrual History.	Symptoms Complained of and Present Condition.	Condition of Parts found at Examination.	Operation and Results.	REMARKS.
60	48	M.	1	Menorrhagia.	Irritation of bladder; loss of general health and nervous prostration; insomnia; pelvic pain which causes almost confirmed invalidism.	Uterus retroflected; cervix eroded; catarrhal endometritis; chronic metritis; pelvic floor destroyed, though there is a skin perineum; uterine annexa normal.	Curettement, excision of cervix; Hegar's posterior colporrhaphy and anterior colporrhaphy. The round ligaments were shortened at future sitting, ten days afterwards.	Result very good. Uterus remained anteverted, but on account of the patient's extreme state of debility she took several months before she began to show improvement. Convalescence when patient returned home, was delayed by an intercurrent attack of pneumonia.
61	28	M.	3	Menorrhagia.	Great backache and constant headache and occasional attacks of vomiting; extreme prostration and general debility.	Vagina very lax; perineum lacerated; uterus anteverted; cervix bilaterally lacerated, everted and much hypertrophied; fungous; endometritis; excessive tenderness of pelvic floor during examination.	Curettement, excision of cervix and posterior colporrhaphy.	Six months after patient left my hospital she called to show me the satisfactory improvement in her general condition. She had no pain, her appetite returned, and her weight was much increased.
62	27	M.	4	Regular, scanty leucorrhoea, profuse.	Complains of severe bearing down pain and backache, headache; extreme state of nervous prostration.	Perineum lacerated; pelvic floor destroyed; uterus lying in retroversion; cervix bilaterally lacerated; ovaries prolapsed and very tender during examination; endometritis.	Curettement, excision of cervix, perineorrhaphy and shortened round ligaments.	Patient was restored to health some months afterwards.
63	20	S.	0	Regular; duration 4 days.	Intense dysmenorrhoea, especially after flow has been established; no other subjecting symptoms.	Uterus in anteverted position; mobile and free from tenderness. Cervix elongated, cystic, proliferating endometrial growth; canal long and narrow.	Split cervix dilated, excised internally, on laterally, curettement of cervix, excision of cervix, high up, dense granular mass in cavity for 50 hours.	Heard from this patient five months afterwards. She has had little or no pain, and thus is not at all any different from her condition during menstruation. General health greatly improved.

64	41	M.	3	0	Regular; duration 6 days.	Headache, very severe and constant, back-ache, great nervous prostration, anæmia and inability to do any house work, however light.	Perineum lacerated; cervix lacerated, everted and hypertrophied; uterus retroverted; chronic metritis.	High excision of cervix; perineorrhaphy and shortening of round ligaments.	Patient heard from recently. She is strong and doing farm work.
65	40	M.	5	2	Menorrhagia.	Constant and severe headache, backache and extreme nervous prostration; leucorrhæal discharge.	Perineum and pelvic floor destroyed; vagina large and vulva gaping; bilateral laceration of cervix; uterus retroverted and bulky.	Excision of cervix; curettement and Hegar's posterior colporrhaphy, shortening round ligaments.	This patient made an excellent recovery, and is now in good health. On account of her anæmic condition at operation the round ligament part was done ten days afterwards.
66	25	S.	0	0	Regular but deviation of floor prolapsed; severe dysmenorrhœa.	Severe menstrual pain; no pain between periods; general debility reduced mainly by menstrual suffering and loss.	Uterus retroverted to 30° and to extremely painful to touch. Cervix congested and extensively eroded; endometritis; uterus easily anteverted.	Rapid dilatation; curettement; excision of cervix and shortening round ligaments.	Patient has been free from pain at periods since peritumescence and is improved in general health.
67	39	M.	1	0	Irregular; duration 3 to 4 days; flow scanty. Leucorrhœa.	Complains of feeling of great depression and general loss of strength; constant headache; patient greatly emaciated.	Uterus anteverted strongly; adnexa normal; uterus mobile, not tender; cervix eroded extensively; catarrhal endometritis; descent of anterior and posterior vaginal walls over badly lacerated perineum.	Dilatation of cervical canal; curettement; excision of cervix; anterior colporrhaphy, colpo-perineorrhaphy.	Patient continued extremely prostrate and anæmic for some days after operation, but began to improve and is now in excellent health.
68	32	M.	1	0	Menstruation regular.	Pelvic floor and perineum destroyed; prolapse of anterior and posterior vaginal walls. Uterus retroverted and lying low down in wall of pelvis; cervix in tact.	Complains of bearing-down sensation, headache and constant backache.	Excision of cervix. Hegar's posterior colporrhaphy, anterior colporrhaphy.	Complete restoration of parts. Patient satisfied with relief afforded.

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69 26	M.	0	0	Menstruation regular: duration 7 days: not profuse.	Intense dysmenorrhoea; also intermenstrual pain constant and severe.	Uterus fairly mobile; retroverted and enlarged; cervix eroded and elongated; chronic proliferating endometritis.	Dilatation, curettement and excision of cervix; shortening of round ligaments.	Perfect recovery and relief from symptoms.
70 24	M.	1	0	Menstruation irregular: 3rd and 5th weeks, duration one day.	No dysmenorrhoea; no headache; severe backache; constant and passes around hips. Some irritation of bladder. Extreme debility.	Slight perineal laceration; pelvic floor destroyed; cervix shows a long posterior lip, result of anterior laceration or strangling of anterior lip from pressure; position of uterus normal.	Excision of cervix; carefully removing any electrical nodules; curettement and perineorrhaphy.	Result excellent. Patient reported herself some months afterwards in good health.
71 27	M.	2	0	Menstruation regular but profuse (7 days) and painful.	Premenstrual pain; leucorrhoea; pain in left lumbar region.	Bilat. lac. of cervix. Papillary erosion; extreme eversion.	Schroeder's excision of cervix.	Union good. Patient discharged well.
72 55	M.	2	0	Menstruation regular. Pain in back and left side	Retroversion, chronic metritis; lac. perineum; descent of pelvic floor.	Schroeder's excision of cervix; perineorrhaphy.	Result reported good.	
73 26	S.	0	0	Menstruation once a fortnight with much pain.	Pain in back and side; leucorrhoea; menorrhagia; painful micturition.	Bilateral laceration of cervix.	Schroeder's excision of cervix.	Result good.
74 26	M.	1	1	Menstruation every 2 or 3 weeks; profuse and painful.	Pain in epigastrium; dysmenorrhoea; rectal tenesmus; pain up and down spine.	Perineum lacerated; cervix much hypertrophied.	Schroeder's excision of cervix; perineorrhaphy.	Result good. Had secondary hemorrhage from suture line six days after operation. Checked by alum packing. Hemorrhage returned in a few days on removal of packing. Repacking stopped it. Final result was good union.
75 20	M.	0	0	Regular, painful first day.	Pain in back and both groins. Frequent and painful micturition. leucorrhoea; vomiting.	Retroversion, retro-uterine inflammation, cervix elongated, chronic cystitis.	Schroeder's excision of cervix.	

76	24	M.	1	1	Regular; not painful.	Pain in head and back. Vertigo. Pelvic pain. Frequent and painful micturition.	Cervix lacerated and eroded; cystic degeneration; uterus anteverted.	Schroeder's excision of cervix.	Good result.
77	21	M.	0	0	Regular and not painful.	Sterility.	Elongated cervix; endometritis (catarrhal); anteversion; left ovary enlarged and prolapsed.	Schroeder's excision of cervix.	Union good.
78	23	M.	1	1	Regular; painful, especially before flow.	Pain in epigastrium and back; vertigo; leucorrhoea; dysmenorrhoea.	Bilateral laceration of cervix with hypertrophy.	Schroeder's excision of cervix.	Union good.
79	38	M.	7	1	Regular; profuse.	Pain over sacrum and in both groins; leucorrhoea. Frequent and painful micturition.	Bilat. lac. of cervix; cicatricial contraction of broad ligament; uterus partly fixed.	Schroeder's excision of cervix.	Result good.
80	33	M.	7	2	Regular; pain before flow; last 7 to 9 days.	Flooding; pain in left groin and oversacrum.	Cervix lacerated with hypertrophy.	Schroeder's excision of cervix.	Result good.
81	19	M.	0	0	Regular till after marriage; since then rather irregular. Much pain first day of flow, which lasted 4 to 5 days.	Leucorrhoea; pain in back and in groins; difficulty in micturating.	Bilaceration of cervix and hypertrophy.	Schroeder's excision of cervix.	Result good.
82	25	M.	0	2	Never regular; intervals 3 to 4 weeks; Much pain first day.	Bearing down pain in back and hips; pain and swelling in left side of abdomen.	Uterus retroflexed; chronic metritis.	Schroeder's excision of cervix; shortening of round ligaments.	Result good. Union complete. Uterus retained in good position.
83	34	M.	4	3	Regular; occasionally painful.	Leucorrhoea; pain in right inguinal region and in back.	Lacerated cervix; uterus fixed by cicatrices of inflammatory origin.	Schroeder's excision of cervix; perineorrhaphy.	Result good.
84	34	S.	0	1	Menstruation always painful and too frequent, 2 to 3 weeks.	Pain in back and in pelvis; worse on standing; menorrhagia; swollen feet; hernia.	Lacerated cervix; lacerated perineum; uterus fixed in right lateral inclination.	Schroeder's excision of cervix; curetting.	Patient did well.

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85	35	M.	7	1	Menstruation regular.	Pain and swelling in right side. Vomiting and constipation.	Retroversion; bilateral laceration of cervix; lac. perineum.	Schroeder's excision of cervix; perineorrhaphy; shortening of round ligaments.	Recovered well from operation. Came back in a week after discharge with pelvic pain. Uterus found to have gone back to retroversion and held down by adhesions. Caused by fall down stairs shortly after leaving hospital.
86	28	M.	2	2	Never regular; often every 2 weeks, and sometimes lasting 13 days; not much pain.	Pain in left iliac, hypogastric and lumbar regions. Nausea, vomiting and headaches.	Retroversion; chronic metritis; erosion of cervix.	Schroeder's excision of cervix; colporrhaphy; shortening round ligaments.	Good.
87	21	M.	2	0	Regular.	Abdominal pain, weakness and nervousness.	Lacerated cervix; lac. perineum.	Schroeder's excision of cervix; colporrhaphy.	Had 2 severe secondary hemorrhages. Temporarily checked by tamponing with gauze and perchlor. of iron, but recurred, due to sutures cutting through cervix, which seemed unusually soft. Fresh sutures finally inserted were effectual, and patient recovered well.
88	38	M.	7	0	Menstruation regular; pain and flow never excessive.	Pain in back and left side on exertion; headaches, constipation.	Prolapse of post-vaginal wall. Chronic metritis. Lac. cervix.	Schroeder's excision of cervix; Hegar's colporrhaphy.	Recovered somewhat slow, but final result very good.
89	42	M.	1	0	Menstruation regular.	Pain in back and left side, extending into thighs at times; leucorrhoea. Frequent micturition.	Uterus in retroversion and drawn to left side.	Schroeder's excision of cervix; round ligaments shortened.	Recovered well.
90	23	M.	1	0	Regular.	Dragging pain in lower abdomen; constipation.	Metritis, endometritis, bilateral laceration of cervix.	Schroeder's excision of cervix; Hegar's colporrhaphy.	Result good. Union perfect.
91	23	S.	0	0	Irregular menstruation occurring about every two weeks. Great pain, resembling that of menstruation, when it occurs.	Painful and frequent menstruation; constipation.	Retroversion, on left side of uterus a tender mass.	Schroeder's excision of cervix; curetting; shortening of round ligaments.	Result good. Had one period which was painful before leaving hospital.

A CASE OF GASTRO-ENTEROSTOMY.*

BY JAMES BELL, M.D.,

Associate Professor of Clinical Surgery, McGill University; Surgeon to the Montreal General Hospital.

I beg to submit, for the consideration of the Society to-night, the following report of a case of gastro-enterostomy, or, to be more accurate, gastro-jejunostomy, performed for the relief of pyloric obstruction, caused by a cancerous growth in the stomach walls.

The patient, a young married woman, 31 years of age, was admitted to hospital, under care of Dr. George Ross, on the 24th of February, 1892. She complained of headache, dizziness, constipation, vomiting and pyrosis. The first appearance of these symptoms dates back to the fall of 1890, when they seem to have come on rather suddenly. The vomiting at this time is described as coming on in periodical attacks, at no particular time of the day, sometimes on rising in the morning, and at other times during or after meals,—never before. The vomited matter consisted of partially digested food, but never contained any blood. These symptoms continued practically unchanged until about four months prior to admission to hospital, when she consulted a physician, who examined her and diagnosed pyloric obstruction with consequent dilatation of the stomach, and had the stomach washed out every morning with great relief to the symptoms, especially the vomiting. Only about one month before admission to hospital was the tumour discovered by the patient herself. She thinks it has not increased in size since she first discovered it. She has been steadily losing weight since the illness began, but has never suffered any pain except a slight distress before vomiting, which was always relieved by evacuation of the stomach contents.

Personal history.—Patient was born in Scotland and came to Canada at the age of two years. She was brought up in the country and lived on a farm until twenty years of age, when she came to Montreal as a general servant. Five years ago she got married and returned to the country. She has had two children

* Read before the Medico-Chirurgical Society of Montreal.

and one miscarriage. The youngest child is five months old. She has always enjoyed good health, with the exception of an attack of inflammatory rheumatism when twelve years of age. Has never used alcohol in any form.

Family history.—Father dyspeptic ; no history of cancerous, tubercular or neurotic disease.

Present condition.—Patient poorly nourished, though not emaciated ; pale and anæmic. Bowels constipated, moving only every two or three days. Temperature 97°F. : pulse 92 ; respirations 30. Heart and lungs normal. Urine : sp. gr. 1028. clear amber colour, free from deposit, no sugar nor albumen. Abdomen somewhat distended, particularly about the umbilical region. A dilated stomach with a hard, nodular, movable and painless tumour at the pylorus is easily recognized ; the tumour is apparently about the size of an orange, and lies below and to the right of the umbilicus. Hepatic and splenic dulness normal. The stomach was washed out daily, and on the 2nd of March the patient was transferred to the surgical side. Careful examination on two different occasions failed to show any free hydrochloric acid in the stomach contents. The only important point in diagnosis which could not be decided was whether the growth was malignant or simply cicatricial. The patient was prepared for operation as follows. On the 3rd of March the bowels were thoroughly cleared out by a saline purge. On the 3rd and 4th she was allowed only peptonized milk (three pints daily), and the stomach was washed out twice daily with warm water. The last food was given by mouth at 5 o'clock p.m. on the 4th, and the stomach was washed out at midnight with a boro-salicylic solution (Thiersch's). This was repeated on the morning of the 5th and again at 12.30 p.m., just before operation, the last washing being very thorough. The patient had two enemata of peptonized beef-tea on the morning of operation, the last being at 12 o'clock, and consisting of four ounces (the first of five ounces, at 8 o'clock a.m.). Her weight was 95 lbs. When the stomach was emptied the tumour was found to have receded up beneath the lower costal margin, and was only evident on expiration, when it came down below the border of the ribs. The patient

was etherized and an incision made in the median line from near the ensiform cartilage to the umbilicus. The stomach was drawn up through the wound, when it was found that the tumour consisted of an infiltrating growth of the stomach wall at the pyloric extremity, involving its whole circumference and more than a third of the organ in length. There were no adhesions and the growth was sharply defined by the pylorus, the duodenum being quite free. Hard, infiltrated and enlarged glands were found in the gastro-hepatic-omentum, the mesentery, and behind the peritoneum (retro-peritoneal glands). The tumour was evidently carcinomatous, and the disease had spread widely along the neighbouring lymphatics. On this evidence the question of excision of the growth was promptly negatived and the decision arrived at to establish an anastomosis between the stomach and the jejunum. The transverse colon and the great omentum were drawn upwards and the jejunum found without any difficulty. It was then approximated to the anterior wall of the stomach about an inch above the greater curvature, and an inch and a half beyond the margin of the growth. They were attached by a curved line of fine silk sutures (continuous), including the peritoneal and muscular coats only, which was intended to strengthen and perfect the approximation of the peritoneal surfaces below the inferior borders of the incisions. (These sutures could not be introduced after the rings had been inserted.) A longitudinal opening about $1\frac{1}{2}$ inches long was now made into each viscus about a quarter of an inch above the line of suture, which brought the incision in the jejunum to within a quarter of an inch of its free border and about 8 or 10 inches from the end of the duodenum. There was free bleeding when the incisions were made, but this was arrested as soon as the rings were introduced and a little pressure made upon them. Abbé's catgut rings were now inserted, each having an opening $1\frac{1}{2}$ inches long. The surfaces were then brought together and the threads tied, and another line of Lembert sutures was carried along the superior border of the rings to connect with the extremities of the one already introduced. Towards the pylorus this was continued for about an inch to prevent the too abrupt flexion of the distal extremity

of the bowel. These manipulations were conducted practically entirely outside of the abdomen, and the whole operation, from the first incision until the closure of the abdominal wound was completed, occupied fifty-six minutes. The anastomosis was completed in forty minutes. The original intention was, of course, if the condition of the parts had justified it, to excise the pyloric end of the stomach, invert the edges, and close the wounds in both stomach and duodenum, and then to establish the anastomosis as above described. As already stated, the intention of excising the tumour was abandoned on account of the extensive involvement of the neighbouring lymphatics. The patient's condition remained good throughout the operation. She was allowed nothing whatever by the stomach for 48 hours. She was then allowed a little water and a little peptonized milk alternately in gradually increasing quantities. On the fifth day she was allowed plain milk, and on the eighth day chicken broth and porridge. For three days after operation the beef-tea enemata were continued, and for the first 48 hours saline injections were given by rectum to relieve thirst, which was not excessive. Patient had a small stool on the night of the 5th (day of operation), and passed flatus by rectum freely next day. On the 7th there was some hiccough and patient vomited twice small quantities of dark liquid with a heavy, offensive odour (not faecal). Bowels moved again in the night.

March 8th.—Coughed some during the night. Vomited once 18 oz. of yellow liquid with offensive odour. Temperature, which had hitherto been normal, rose to $99\frac{1}{2}^{\circ}\text{F}$.; pulse also rose to 100. Bowels moved three times. Complained of great pain in right side of pelvis after last enema.

9th.—Patient much disturbed by cough, otherwise comfortable and inclined to sleep. Bowels moved once. Pulse 108; temperature 101° .

10th.—Cough very troublesome. Bowels moved three times. Patient slept well in intervals of coughing. Temperature reached 100° ; pulse 96.

11th.—Cough continues troublesome. Temperature reached 99.2° ; pulse 108. Patient slept well.

12th.—Temperature 99° ; pulse 108. Patient comfortable except for cough.

13th.—Temperature $98\frac{1}{2}^{\circ}$, pulse 104. Patient slept well; still coughing.

14th.—Vomited porridge, first vomiting since the 8th (five days). Slept well. Temperature reached $99\frac{1}{2}^{\circ}$; pulse 104.

15th.—Vomited again. Slept well.

16th.—Vomited 28 oz. fluid. Temperature 99.3° ; pulse 110.

17th.—Patient woke up in the night complaining of severe pain in the abdomen, which lasted 25 minutes. Slept two hours and awoke feeling cold, but had no chill nor rise of temperature. Pain continued at intervals. From this time till the afternoon of the 24th, when she died, the course was gradually downwards. Pain, requiring morphia for its relief, weakness, emaciation, some vomiting (not frequent nor severe), cough and perspiration were the symptoms observed. The pulse became weaker and ranged from 100 to 112, and the temperature remained practically normal, sometimes reaching 99.5° .

There were thus two distinct events occurring in the twenty days during which the patient lived after the operation. First, a troublesome cough coming on on third day, accompanied by rise in temperature and rapidity of pulse, but which gave rise to no physical signs; and second, sudden seizure of pain in the abdomen on the night of the twelfth day after operation, at which time I have no doubt the fatal peritonitis began.

The following is Dr. Lafleur's report of the autopsy made four hours after death:—

Report of Autopsy in Case of Carcinoma of Stomach Operated on by Dr. Bell.—"Body emaciated, sallow and anæmic. Visible tumour in right hypochondrium and epigastrium. Linear scar in median line, in epigastrium and upper umbilical regions. On opening peritoneal sac the peritoneal coat of the intestines was found reddened and turbid. Loops of small intestine adherent to the floor of the pelvis. Adhesions recent, and composed of yellowish fibrinous material; a few fragments of the same material were found on the surface of the spleen. A firm tumour mass, freely moveable, occupied the pylorus and the part

of the stomach immediately adjoining it. The operation-wound between the first portion of the jejunum and the lower and anterior part of the stomach was completely united and in a healthy condition. The jejunum, a short distance above the anastomosis, is adherent to the transverse colon, and, on tearing through a few recent adhesions, a small pocket of thick, yellowish-green pus, about 2×1 inches, was exposed, which lay partly in the meso-colon, which was thickened and infiltrated. In doing this a portion of the proximal jejunum, which was softened and necrotic at this point, was torn away. At this point the end of the duodenum appears to have been twisted into a sharp S-shaped curve, and was slightly strangulated. On opening the stomach the little finger could be forced with some difficulty through the pyloric orifice. This and a portion of the wall of the stomach were occupied in their whole circumference by a firm, pinkish-yellow, infiltrating mass of new growth. The exposed surface of this was irregularly nodular, and showed in places a distinct loss of substance. On section it involved all the coats of the stomach, was firm and resisting, and of a yellowish-white colour. The opening between the stomach and jejunum measured $1\frac{1}{4} \times 1$ inch, and was perfectly patent. Around the edges, in the stomach, and in the jejunum were the remains of the plates used at the operation; the plate in the stomach was still firm and scarcely altered in three-fourths of its periphery, while the plate in the jejunum was disintegrated and soft. The duodenum, from the pylorus to the point of constriction above-mentioned, was moderately dilated, and contained fluid material of a greyish-yellow colour. The lymphatic glands nearest the tumour were slightly enlarged and infiltrated, and were somewhat firm and of a yellowish-grey colour. There were no metastases in the liver, kidneys, spleen, lungs or peritoneum. The spleen was enlarged and soft. Cover-slip preparations from the small abscess cavity showed a variety of bacteria, chiefly short, thick bacilli in pairs, longer, thick bacilli, and a few cocci. There were no chain-cocci observed. The absence of stitch-abscesses and the healthy condition of the anastomotic wound, the appearance and diversity of the bacteria found in the pus, the late

development of peritonitis, and the occurrence of an abscess in proximity to a necrotic portion of the intestine, point to infection from the intestinal tract. The microscopic examination of a portion of the tumour shows it to be scirrhus."

The peritonitis, which was the direct cause of death, was not due to any failure in the technique nor to any yielding of parts and escape of contents. In fact the union is particularly good, as the specimen shows. According to Dr. Lafleur's explanation, it was due to kinking of the first part of the jejunum from having been doubled up too acutely upon itself. This is an interesting observation, as the rules laid down are to unite the jejunum as high as it can be attached without dragging. Ten and twelve inches are mentioned in several reports of successful cases as the point of attachment. In others where the jejunum could not be easily found, any convenient loop of small intestine has been attached. In one such case, mentioned by Lauenstein of Hamburg, the patient died of inanition, and at the autopsy the loop of bowel attached was found to be the lower part of the ileum. In the case which I have just reported, I judged that the incision was made about eight or ten inches from the end of the duodenum. There was no dragging, and the loop seemed quite long enough and showed no tendency to acute bending or kinking. Probably if I had continued my line of suture along this loop, as I did along the distal end to form a spur, the fatal result might have been averted. I cannot help thinking, however, that the acute bending of the bowel may have been due to some special cause—possibly, for instance, the regurgitation of part of the fluids taken into the stomach backwards into the duodenum, and the dragging of this weight especially during the paroxysms of coughing which began on the third day. The dilated condition of the duodenum shows that such regurgitation occurred, and, in fact, it cannot fail to occur in this operation. Again, it is, I believe, a recognized fact that patients in advanced malignant disease are more prone to inflammatory attacks of this kind.

There was in this case no room for any choice of operation. Had the growth been cicatricial and non-malignant—a condition

<i>Population about the years</i>		<i>No. of deaths from cancer.</i>	
	1883.	1883.	1891.
Montreal	200,000	109	86
Toronto	166,090	55	67
Quebec	64,000	Not given. 1884-88 }	27
Halifax	40,000		21
St. John	30,000	15	6

The Ratio per 1000 of Population for the Years

	1883.	1891.
Montreal	.545	.39
Toronto	.331	.36
Quebec	.594	.42
Halifax	.825	.54
St. John	.5	.15

I have commenced with the 1883 statistics, because they are the first reliable statistics since the Dominion was formed. It will be evident that cancer *has not* increased to any great extent.

I have given the statistics of the few representative places simply to keep the members of the Association from using bad language. The general results, however, as to percentage of deaths to population is much the same when taken over a larger area. Much might be written on this subject, but my object has been accomplished should I succeed in gaining the attention of some who may study the mortuary statistics of cancer more carefully.

Reviews and Notices of Books.

The Supreme Passions of Man: or, The Origin, Causes and Tendencies of the Passions of the Flesh. Setting forth the results of scientific inquiries into the appetite of mankind and the passions which they excite. A study of the crimes of the flesh and the efforts of Christianity to maintain purity. An essay on the true causes of drunkenness and the only way to prevent this evil. Observations on the relation of vice to the laws of nature and the existing educational systems. By PAUL PAQUIN, M.D., etc., editor of the "Bacteriological World," Director of the Laboratory of Hygiene, Battle Creek, Michigan. Published by The Little Blue Book Co., Battle Creek. 1891.

This book is the result of an attempt on the part of a modern medical biologist to show the relations between the passions and the mode of life, especially the diet, of man. It is high time morality was given a biological basis, or, to put it otherwise, that the dependence of the whole of the psychic nature of man on the physical was clearly pointed out; and we agree with the writer of this book that when such is the case the actual moral condition of men can be approached by reformers with weapons of which they are now ignorant. The noble earnestness of this little book cannot fail to impress every reader, and we have reason to feel proud that this work has been undertaken by a member of the medical profession, a profession fitted, above all others, to deal in a special and effective way with the failings of men. A few more lay sermons of this kind could not fail to do a vast amount of good; and if in every large city the physicians could be induced to give a course of medical or biological discourses with a moral bearing, we venture to believe that more might be accomplished than the pulpit, unaided, has yet effected, or ever can, by pure moral suasion of the sort which has held sway for so long. It is good so far as it goes, but it overlooks too much in human nature.

Dr. Paul Paquin has deserved well of his day and generation

by his noble appeals, based as they are, in the main at least, on sound science and equally sound sense. The book is cheap and should have a large sale.

W. M.

Bacteriological Diagnosis. By JAS. EISENBERG. Translated from the second German edition by NORVAL H. PIERCE, M.D. Philadelphia : F. A. Davis Co. 1892.

This work is too well known by bacteriological workers to require any commendation from us. We regret to see, however, that the translator has only given us the English version of the second German edition of 1887, instead of bringing it up to the third edition published some years later. In a rapidly advancing science like bacteriology this is a serious fault, and will render the book almost useless to investigators. An appendix of the technique used in the cultivation and staining of bacteria will prove of value for ready reference.

A Dictionary of Treatment, or Therapeutic Index. Including Medical and Surgical Therapeutics. By WM. WHITLA, M.D. Philadelphia : Lea Bros. & Co. 1892.

This book, originally intended as a therapeutic index to accompany the author's work on Therapeutics, has grown into a useful summary of the weapons, medical and surgical, with which we can attack disease. As implied by the title, the arrangement is alphabetical, under the heads of various diseases. Every page reflects the author's experience, although due prominence is given to the works and opinions of others. The subject of diet receives much attention throughout, and many useful hints are given under this important head. Most of the newer remedial agents receive consideration, but a wise conservatism is shown in the use of the older and well tried drugs which have stood the test of years. Thus digitalis is shown to still hold its position as the best cardiac tonic ; the alkalis are regarded as useful adjuvants to the salicylates in rheumatism ; and opium stands first in the list of remedies for diabetes. The use of baths in typhoid is regarded with favour, although the author does not quote any personal experience, and no reference is made to their

beneficial action on the nervous system in promoting sleep and preventing the appearance of the typhoid state. Where so much ground is covered it is impossible not to find certain points which might have been more fully treated. We miss any reference to the treatment of uræmia by morphia, or to the effects of cold water in the hyperpyrexia of rheumatism. Poultices are still recommended to "draw" deep-seated peri-typhlitic abscesses to the surface—a practice which, we think, is now universally condemned on this continent.

The book is of convenient size, fairly printed, and cannot fail to prove of great value to both practitioners and students.

A Manual of Diseases of the Nervous System.

By WM. R. GOWERS, M.D., F.R.C.P., F.R.S., Consulting Physician to University College Hospital; Physician to the National Hospital for the Paralyzed and Epileptic. Second Edition. Revised and Enlarged. Volume I.—Disease of the Nerves and Spinal Cord. With one hundred and eighty illustrations, including three hundred and seventy figures. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street, 1892.

In reviewing the first edition of Dr. Gowers' work on the Nervous System we have had no hesitation in saying that it was the most important volume on the subject up to that period published. We have much pleasure in saying the same of the first volume of the second edition. Many additions have been made to the new issue, and the whole has been thoroughly revised. It is devoted to Diseases of the Nerves and Spinal Cord. A very elaborate article on multiple neuritis, extending over fifty pages, gives the most recent and fullest information on this interesting and important disease. It is a striking fact that the voluminous literature of multiple neuritis has all been written within the past ten years. Previously all such cases were diagnosed as of spinal origin. The literature of nervous diseases in the past is, as a rule, only interesting historically.

The second part of the volume, dealing with the spinal cord, opens with a full account of the most recent researches in the anatomy and physiology of this part of the nervous system.

Nearly every page relating to the diseases of the cord shows that the author has spared no pains to present his subject in accord with the most recently acquired knowledge. Syringomyelia and the muscular dystrophies receive special attention.

The work is one which the practitioner can consult with the greatest confidence. He will always be able to find all that is really known up to the present time on those diseases. As pointing to the great worth of Dr. Gowers' work and its appreciation by foreigners, we may mention that a German edition of the second revision has just been published by Cohn of Bonn, and we understand that an Italian translation is also nearly ready. The American publishers are to be congratulated on the excellent form in which they have brought out the work.

Manual of Physical Diagnosis. For the use of Students and Practitioners. By JAMES TYSON, M.D., Professor of Clinical Medicine in the University of Pennsylvania, Physician to University Hospital. Philadelphia : P. Blakiston, Son & Co. 1892.

Professor Tyson, from his extensive experience as a clinical teacher, is well qualified to write a work on Physical Diagnosis. This small volume will prove especially valuable to students. It is clearly and well written, and will in all probability become as popular as the author's well known work on the urine.

Diseases of the Nervous System. By J. A. ORMEROD, M.D., F.R.C.P., London, Medical Registrar and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital; Physician to the National Hospital for the Paralyzed and Epileptic, etc. With numerous illustrations. Philadelphia : P. Blakiston, Son & Co., 1012 Walnut street. 1892.

The author modestly says in his preface that he makes no claim for his work as a substitute for the elaborate treatises dealing with this part of medicine. It is only an "introduction and outline map of territory to be acquired." It is, however, an excellent outline for both student and practitioner. The in-

troductory part dealing with the normal and morbid anatomy of the peripheral and central nervous system is especially worthy commendation. The illustrations, many of which are original, are numerous and well executed. The work is one that will be popular with students, as it is free from many of the serious objections to outlines.

The Year-Book of Treatment for 1892. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers and Co. 1892.

We gladly welcome this useful volume. It is in every respect an excellent summary of the work done in general medical and surgical therapeutics during the past year. The names of the writers is a sufficient guarantee of the quality of the work. Diseases of the heart and circulation are dealt with by Mitchell Bruce, diseases of the lungs by Markam Skerrit, diseases of the nervous system by the late lamented Ross of Manchester and Ernest S. Reynolds, etc., etc.

A Practical Manual of Diseases of the Skin. By GEORGE H. ROHE, M.D., Professor of Materia Medica, Therapeutics and Hygiene, and formerly Professor of Dermatology in the College of Physicians and Surgeons, Baltimore, etc., etc.; assisted by J. WILLIAMS LORD, A.B., M.D., Lecturer on Dermatology and Bandaging in the College of Physicians and Surgeons, Assistant Physician to the Skin Department in the Dispensary of Johns Hopkins Hospital. Philadelphia: The F. A. Davis Co., Publishers, 1231 Filbert street. 1892.

Is there a teacher of dermatology and syphilis who has not written a book on the subject? Hardly a month passes by without a new work on these subjects appearing. This little handbook, though not urgently needed, puts the subject in a concise and readable form for students who have so little spare time to devote to such a special subject as dermatology. There is now a large choice of these books, and the one under consideration is quite up to the average.

The Diseases of the Skin. A Manual for Practitioners and Students. By W. ALLAN JAMIESON, M.D. Third edition. Philadelphia: Lea Brothers & Co. 1892.

This work is one that reflects great credit on the author, who is well known as a teacher of, and writer on, skin diseases. His connection with the Edinburgh Infirmary and the Edinburgh School of Medicine well fits him to write a successful work on this subject, and the fact that three editions have been called for in less than four years is a proof of the value of the work and of the uselessness of an extended review. Notwithstanding all this, the book is not suited for a text-work for students, because it is incomplete, many subjects being left out—*e.g.*, sarcoma of skin, drug rashes, ainhum, etc. Many affections are merely alluded to and not fully described. However, the author has succeeded in writing a most excellent book, well written and easily read. He follows Unna to a large extent in treatment, and quotes Mr. Jonathan Hutchinson frequently. He seems to have an accurate knowledge of the work done in America in this department of medicine, a knowledge which is not very widespread in Europe. Mr. Jamieson has his own opinions on disputed points and is not afraid to state them, and it can be easily seen that this work is the result of personal observation and experience. The book is illustrated with large coloured plates, whose usefulness is rather marred in many cases by the folding of the sheet in the middle. There is a good index of authors and subjects, which greatly adds to the convenience of the reader.

A Manual of Venereal Diseases. By EVERETT M. CULVER, M.D., and JAS. R. HAYDEN, M.D. Philadelphia, Lea Brothers & Co. 1891.

This is a useful epitome of venereal diseases and their treatment. The literature of this subject is already a large one, and this little work, although no doubt useful to students, will not add much to our knowledge of venereal diseases. There is no new matter; more than half the book is taken up with gonorrhœa and its complications, and the rest is on syphilis. The

first part is by Dr. Culver and the second by Dr. Hayden. The various lesions of syphilis are described methodically, each system, as nervous, vascular, digestive, respiratory, etc., being taken up *seriatim*. The book is nicely printed, with good index, and well illustrated with cuts of the various instruments employed by the authors. Students and practitioners who are fond of small handbooks will find this one better than those usually foisted upon them.

Selections.

HEALTH STATISTICS.

WHAT ABOUT FREE REPORTS? AN ADDRESS TO THE MEDICAL PROFESSION OF CANADA.

(*For the Montreal Medical Journal.*)

Robert Farquharson, M.D., M.P., long a prominent member of the Parliament of Great Britain, at the late seventeenth annual congress of the Sanitary Association, of which he is president, said "the foundation of all effective progress in preventive medicine must be education." Indeed it has now been found out in Great Britain that much greater progress can be made by educating the masses than by trying to coerce them.

In Canada, our Provincial Legislatures may enact laws, and local Boards of Health may be organized by hundreds, and although all this is a good beginning and essential, much more still remains to be done. Sanitary work is but begun when good laws are passed and local boards organized. These do not create the public realization of their usefulness. Health acts are now in advance of the public feelings. The people often instead of welcoming them take their enforcement as an intrusion and interference with individual rights and liberties. The masses of the people are not disposed to inconvenience themselves by keeping their body and premises clean and their infected family isolated to gratify the whim of their neighbours or even their law makers. They require to be taught that compliance with health rules and regulations will be a direct benefit to themselves, yea, money in

their own pockets ; that non-compliance with such rules and regulations is the cause, indeed the only cause, of disease, with all its attendant pains, expenses and loss of time ; that wherever there is a high mortality or a high sickness rate, there surely will be found unsanitary conditions or environments which demand attention.

In this education of the people, although not at all akin to the education of the schools, it is very desirable that a spirit of emulation be stirred up, in order that the various districts or municipalities shall vie with each other in showing a low death-rate, and a "clean bill of health" by keeping themselves free from epidemic and other diseases.

It is and has long been the universal opinion of sanitarians that the basis of all public health, work, and progress, both educational and coercive, is a system of health statistics—of births, marriages and deaths. Beyond this, it has become clear, in recent years, that for the best, or even fair, preventive progress, statements or reports (not exactly statistics, for they cannot practically be complete or accurate) monthly or oftener, of prevailing diseases, especially of any outbreak or cases of infectious disease of importance, are absolutely essential. It will not do to *wait* for the *death* returns. Not only the local boards, but the central organization should be early informed of any such diseases.

Returns and records of these statistics and reports or statements of prevailing disease would form a most valuable record, year after year, for the Federal (the Canadian) Government to possess, but to be of practical value, the information obtained from month to month, or oftener, especially of prevailing diseases, must be scattered freely amongst the people, at least monthly, as by means of a bulletin. These reports not only show where unsanitary conditions need attention, but they give rise to the desired spirit of emulation amongst the different municipalities. Every community, then, would have a strong tendency to endeavour to prevent, as far as possible, any outbreak of disease each in its own respective locality, and to preserve a "clean bill of health," as ships at sea usually desire to do, for their own credit.

- Now it must be obvious to anybody, even if he be not versed in political economy, that it would be much more economical, on the whole, for but one centre in Canada, the Federal Government, to carry on this work of collecting statistics and reports, recording them, and issuing a bulletin of their condensed facts, etc., than for each province to do so on its own account, while the results in the former case would be incalculably better. If done by the one central government, all the information obtained would be in one central Canadian record, and, more important still, the information conveyed by the returns would then be distributed throughout all the provinces; done by each province, each would only collect and distribute within its own boundaries, except, perhaps, to a few outside officials, and the people of each would therefore only receive and obtain the information gathered within and relating to their own province. Whereas, it is almost as essential for the Eastern or Western provinces, for example, to learn in what special localities any epidemic or prevalence of disease exists in Ontario or Quebec, as in their own provinces, while the same principle holds good with regard to Ontario and Quebec in relation to the East and West. In short, if done by the one centre, all the provinces would get the good of all the information obtained; if done by each separate province, each would only get that relating to itself—a vast and most vital difference.

There appears to be a good deal of misapprehension amongst members of the profession relative to this question of federal and provincial public health legislation and action, arising apparently from want of time amongst the busy practitioners to consider thoroughly the whole question in all its bearings. Coercive legislation, enactments, by-laws, etc., and the carrying out of the same, must remain as now under provincial and municipal control. But any one who will give the subject due thought and consideration will surely see that the collection of the proposed statistics and reports and utilization of these for the public instruction and benefit, as above indicated, can be much more thoroughly, economically and profitably done by one centre than many, with vastly better result in every way. In agriculture,

the one Central Experimental Farm can be utilized for the education of the farmers of the whole Dominion much better than for each province to sustain such a farm and attempt the instruction separately. Somewhat similar it is in relation to the analysis of food, etc., in the Dominion ; and to the quarantines and diseases of animals. Moreover, it may be well to note here that, if we desire to make Canada as soon as we can the great country she is surely destined to become, while defending in a large measure provincial rights and privileges, we must as far as possible encourage a spirit of Canadianism, a unity and oneness, in all possible questions and subjects and not manifest too much "provincialism."

As already in several of the provinces there is in a large measure provision for obtaining a record of births, marriages and deaths, it has been well suggested that, at least for some time to come, each province may as well in its own way collect such statistics and then allow them on some terms to be utilized by the central department and dealt with for the public benefit in all the provinces : those provinces which have not now a system for this purpose being induced in some way to provide such.

It appears that it is now proposed to endeavour to obtain for the statistical department in Ottawa the information above indicated, from physicians in all parts of the Dominion, relating to the prevailing condition of the public health—i.e., reports of any epidemic or cases of the most important diseases, by providing the physicians with blanks for this purpose. Doubtless the Government, any liberal government, would be quite willing to pay fairly for such reports, if the people through their representatives in parliament were willing to vote the money for the purpose. Are the people willing ? Many members of parliament, including at least one physician, say, decidedly no ; that if they were to vote for a sum requisite for such purpose they would be censured by their constituents. Then we can only, or must, first of all, educate the people up to a right appreciation of the importance and necessity for such information. They will then doubtless be willing to pay fairly for it.

Now this is largely, almost wholly, in the hands of the medical

practitioners of Canada : what will they do in this behalf ? It has been repeatedly said by a few of them that physicians now do too much without remuneration, more than their share, etc., and that the government, the people, *i.e.*, of course, should pay for all such information. This is very true ; the people should pay ; but as it is now, they will not pay, at present. Shall we not then endeavour not only to teach them the value of having it done for their own sakes, but also to be willing in course of time to pay for the same ?—teach them without pay, for a time ? What else can be done ?

Medicine, it may here be observed, is not a business, but a liberal profession, perhaps the most liberal of all the professions, once chiefly practiced free by the priesthood. Is not the profession, nor are not the members of it as a class, worthy and desirous that it shall ever remain thus liberal, free, noble, bounteous ? The physician gives what cannot be weighed or measured, and hence well estimated as to its money value. He must, however, get a livelihood for his family, and in this business age a certain amount of business energy is necessary. As the *New York Medical Record* (Jan. 15, '92) says : The physician's sympathy for the suffering, and his absorbing interest in the scientific aspects of his cases, raise his mind above financial considerations, and cause him to forget that he is working for the support of himself and his family, as well as for the good of humanity. The physician has furthermore, as a rule, an inborn repugnance, or incapacity, for money-making pure and simple. He dislikes the financial relations and would gladly treat patients without a thought of fee, if he could be guaranteed an income to supply the needs of his family. Owing to this shrinking from even the appearance of being mercenary he often hesitates to prosecute his just claims.

No one knows better than the writer how much has already been done by the medical profession in Canada in promoting and advancing the public health interests in the Dominion. It has always been foremost in this work, and indeed all sanitary progress is due to its efforts. Will physicians not now, "one and all," continue thus liberal, and not allow the question of "pay"

to influence them to the neglect of any public benefit or scientific proceeding ?

Colton, it appears, long ago said, " Physicians are becoming too mercenary." But he wickedly added, " parsons too lazy and lawyers too powerful."

Notwithstanding the influence which wealth now gives, there is that which wealth cannot purchase or procure. If the profession desires to retain its high position, or to push itself up to its proper place in society, as the first of all professions, the members of it must not approach the " mercenary," although they may properly and should place a high value on their services with all those who are able and especially not unwilling to make full returns for the same.

When an effort is made, as it may be, to obtain a fair recorded return from the medical practitioners of Canada of the general condition of the public health, especially as relating to infectious or malarial diseases in their respective localities, hundreds will doubtless cheerfully respond to the calls of science and the public weal. Will they not all do so ? Many earnest workers for the public good will hope so, and trust. When the work has been done for a time and the value of it has been manifested, proper representation of it to the government and the people will doubtless bring the reward. The great majority of the masses of the people prefer to pay fair, full value for all or anything they receive from their fellowmen ; although it may not be always easy to get them fully awakened to an appreciation of the value of some services.

There are always a number of able " medical members" in the Parliament of Canada who look to the interests of the profession, and the profession may be sure that so soon as the public will sanction a vote of money to remunerate physicians for such public service as making returns of sickness for the public good—in the cause of the public health, such vote will be urged upon the Government by the medical members and asked for in the estimates by the Government. Cast our " bread upon the waters "; it will surely " return."

EDWARD PLAYTER.

Ottawa, Feb., 1892.

REMARKS ON TRACHEAL TUGGING AND ON ITS CLINICAL VALUE.

BY WM. EWART, M.D. CANTAB, F.R.C.P.

Owing to the circumstance that Dr. Grimsdale's able and suggestive thesis was, of necessity, a strictly separate production, towards which nothing beyond a series of observations conducted by myself, and very kindly recorded by Dr. Grimsdale and by Mr. L. Moysey, and various incidental remarks made as the occasions arose, was contributed from me, it differs in some particulars from the account which I had intended giving of the investigation. I therefore desire to state as clearly as possible, and without entering into much detail, the leading points in the inquiry, and the main conclusions arrived at by me.

At the time when Mr. MacDonnell's paper called attention to the subject, I had under treatment in St. George's Hospital a case of inveterate cough and bronchial catarrh, beginning, so, I thought, with gouty bronchitis, and presenting the usual signs. Up to that time, neither by myself, nor, as far as I gather, by anyone else, had any suspicion of aneurysm been entertained. The existence of aneurysm of the arch of the aorta was at once revealed to me when I applied Dr. Oliver's test, and shortly after the treatment had been modified, the cough and the noisy *rales* abated, and dulness and tubular breathing could be recognised in the interscapular region and to a very slight extent in the right infraclavicular space also. The patient is still in bed, and presents several obvious signs of aneurysm, but no pulsation. He owes his improved health and probably his life, through Mr. MacDonnell's agency, to Dr. Oliver.

Since that date I have regarded "tracheal tugging" as an important aid to diagnosis; and hearing that its value was doubted owing to its presence to some healthy persons, I was led to inquire into the frequency of its occurrence, independently of aneurysm, in the two sexes, at different ages, and under various states of health. With this inquiry I combined observations as to the relative value of Dr. Oliver's method of eliciting the sign, and of that which I had happened to devise and to use from the first.

The Method of Examination.—The process recommended by Dr. Oliver is as follows:—"Place the patient in the erect position, and direct him to close his mouth and elevate his chin to the fullest extent, then grasp the cricoid cartilage between the finger and thumb, and use gentle upward pressure on it, when, if dilatation or aneurysm exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress, should this accompany the disease."

I have carefully recorded the patients estimates of the relative discomfort of the two methods. Those with soft and tender larynx (chiefly women and children) were about evenly divided in favour of one and in favour of the other. Many others, including even some children, were quite free from discomfort under examination; and this was almost invariably the case in subjects of mature age, with stiffened cartilages. The second method has one disadvantage affecting the observer—that it is almost too delicate, the fingers appreciating the slightest traction, whilst accuracy of observation is favoured by the patient's head being firmly steadied.

The Occurrence of Tracheal Tugging in the Absence of Disease of the Aorta.—Sixty male subject and fifty-seven females were examined with both methods. In 28 per cent of the females and in 50 per cent of the males, some degree of "tracheal tugging" was recognised, the higher percentage in the males being partly accounted for by three cases of aneurysm, which gave the tug, being included in the list. This unexpected frequency appeared to detract from the diagnostic value of the sign; but, in reality, a large majority of the cases were described as "doubtful or very slight, a few as "moderate," and three only as "marked;" and these were the three cases of aneurysm. In none of the females was the tagging pronounced, and in several it was present only during excitement.

Although, in a modified sense, Dr. Oliver's views had been confirmed, yet the upshot of the inquiry was to show that the significance of the sign was not so simple a question as had been stated originally, and, that before any final conclusions could be drawn, much more numerous observations were needed than I had had leisure to make. It had also come to light that some account must be taken of the personal factor

in the perception of the slighter degrees of tugging, and in the appreciation of their value.

Circumstances Influencing the Occurrence or the Degree of Tugging.—Early in the inquiry I had suspected that thoracic conformation and the size of the lungs might have some connection with the existence of this peculiarity, and I had imagined that a short thorax and pulmonary emphysema might favour the occurrence of tugging. These were only suggestions, which I have not had an opportunity of putting to the test. Two points were very clearly made out—(1) the favouring influence of cardiac excitement (this was most obvious in several females), and (2) the favouring influence of forcible inspiration. The former might have been expected. The latter is, I believe, explained by the stretching of the air passages as a whole during inspiration, and particularly by the slight inspiratory descent of the larynx, which perceptibly intensifies the traction already made on the cricoid by the observer's fingers. In anticipation of remarks which are to follow on the subject of the probable mechanism of the tugging in aneurysm, it may be provisionally stated that in that disease tugging, when present, has been, in my experience, unmistakable and easily obtained even with so rough a method as tilting the cricoid cartilage on the tip of a single finger or thumb placed in the middle line and whilst the patient remained in the horizontal position.

The Value of Tracheal Tugging in the Diagnosis of Thoracic Aneurysm.—I have related an instance in which Oliver's sign led to the diagnosis of aneurysm and to its proper treatment. The following is an instance of the failure of diagnosis in a case where this method was not employed:—

“A middle-aged man was admitted under my care suffering from severe dyspnoea, universally audible *râles*, and abundant, thin, frothy, mucopurulent expectoration. He was supposed to be the subject of asthma and bronchitis. The chest was everywhere hyper-resonant, and the loud *râles* precluded a satisfactory examination of the heart. In the absence of any other indication the case was diagnosed as one of acute bronchial catarrh complicating pulmonary emphysema. My attention having of late been engaged with the subject of aneurysm, the thought that the patient's symptoms might be due to aneu-

whilst paralysis of the left vocal cord, occurring in the absence of tracheal tugging, might be interpreted to mean that the bronchus was not under pressure, although some bulging of the anterior surface of the arch had occurred.

The General Clinical Value of Tracheal Tugging.—The foregoing remarks, although partly speculative, may justify the view which I take of the importance of tracheal tugging in the diagnosis of aneurysm. There is, however, a further aspect to this subject. What significance are we to attach to the relatively frequent occurrence of slight tugging in healthy persons? The presence or the absence of this peculiarity constitutes a difference between individuals which must have its meaning, and which probably will have its future uses, perhaps in directions far removed from the diagnosis of aneurysm. Any clinical sign is worth studying in itself, irrespective of its practical applications. Moreover, the uncertainty still prevailing as to the mechanism of tracheal tugging in particular should be an additional incentive to research. As an outward sign of deep-seated internal events, I believe that tracheal tugging will acquire as much clinical importance as the other vascular and cardiac impulses which we have been trained to observe. In any case, this is a subject worthy of thorough investigation on a much larger scale than I have had leisure to attempt; and physicians should not lightly neglect the opportunity afforded to them by a large proportion of subjects of indirectly feeling the pulse of the transverse aorta.

It has not yet been pointed out that the left bronchus has a still closer connection with the left pulmonary artery than with the aorta, whilst the arch formed by the former vessel is much shorter and less curved than the aortic arch. Perhaps the slight tugging discovered in healthy persons may have its origin in the normal pulsation of the pulmonary artery.—*British Medical Journal*.

Aphthous Sore Mouth in Children.—

Aphthous sore mouth in children caused by the use of milk from cows affected with aphthous-fever is the subject of a report by Dr. Allinier, published in *La Revue Médicale de l'Enfance*, January, 1892, as follows:—

“ Although some specialists in children’s diseases assert that the transmission of aphthous diseases is extremely doubtful, and that some of them, as Bohn, positively deny its possibility, it is certain, nevertheless, that the milk of cows or of goats having aphthous-fever may produce an aphthous stomatitis in persons who use it. The facts related by Ollivier are quite conclusive on this subject.

“ As long ago as 1765 Sagar observed, in a convent, an epidemic which left no doubt in his mind as to its origin ; all the cows from which the milk for the institution was supplied were attacked with aphthous-fever, and the religious who used the milk were attacked with fever and confluent eruptions in the mouth.

“ In 1834 three Prussian veterinary surgeons—Hertwig, Mannaud and Villain—drank of the milk of cows suffering with *cocotte* or aphthous sore mouth (aphthous-fever), and all three were attacked after a short period of incubation with the characteristic eruption.

“ Since that time numerous facts have been brought to light and numerous experiments, voluntary and involuntary, have been made and published by Delest, David, Proust, Nancara, Declainche, who have cited many other incidents besides their own. In a case of Goubaux, an infant raised on the bottle in the country was taken with a confluent aphthous eruption in the mouth ; the cow that gave the milk was examined and found to be suffering with the disease.

“ At Lyons M. Chauvau observed the following case : In a boarding-school of young ladies the pupils were accustomed to take unboiled milk every morning, which was supplied from a neighbouring farm on which the cows were found to have aphthous fever ; nearly all the young girls were attacked with the local vesicular eruption.

“ Fränkel reports four cases which he observed, some of them in adults and some in children, and believes that they were transmitted by the milk used. Wassenberg maintains a similar opinion in regard to the transmissibility of the disease.

“ From many facts observed by Dr. Ollivier in the hospital

for sick children, he was able to show that children who used the milk of diseased cows almost invariably contracted the disease.

"If, then, we can admit with Monti that aphthous stomatitis may be due to the presence of alimentary substances in the mouth for a long time, or to the alteration of the secretions, or the production of an irritant or toxic substance in the mucous membrane, we must also recognize the fact that aphthous stomatitis may be transmitted by milk from cows or goats having aphthous-fever, for many facts and many examples can be adduced to prove it abundantly.

"Can the disease be transmitted from one individual to another? Some observations made by Chaumier in 1886 seem to prove it.

"But what gives rise to the contagion? Fränkel has found the staphylococcus pyogenes citreous of Passet and the staphylococcus of Rosenbach, but they afford nothing of a special nature.

"Milk from Diseased Animals and its Effects is reported in the *Giornale della Reale Societa Italiana d'Igiene* for January and February, 1892.

"It is well known that many hygienists attribute much influence to the milk of diseased animals in the diffusion of tuberculosis. Hirschberg wished to determine definitely the transmissibility of tuberculosis, and made extensive experiments on animals with matter taken from others affected with or suspected of having the disease. The author found that the milk of cows having general or local tuberculosis always possessed the property of giving the disease to animals which were inoculated with it, and it seemed that the active agent had the form of spores, which were more resistant than the bacilli."—*The Sanitarian*, May, 1892.

New Treatment of Acute Gonorrhœa.

—Cotes and Slater (*Lancet*, February 27, 1892) describe a new treatment for acute gonorrhœa. The patient is first made to micturate, and thus remove as much discharge from the urethra as possible. The endoscope tube, warmed and oiled, is

then passed into the urethra, the patient lying on a couch. As a rule, the passage of the instrument gives rise to but slight pain, but occasionally, in sensitive patients, a ten per cent. solution of cocaine, previously injected into the urethra, will be found useful. The urethra is then thoroughly mopped with dry cotton-wool, fixed in a stilet, and examined by the electric light. The exact limit of the inflammation can be clearly seen. It is, as a rule, quite five inches from the meatus; it may be four as early as the third day. The implicated surface is at once to be recognized by its swollen, bright-red appearance as contrasted with the rosy colour of the healthy urethra. It is important not to pass the endoscope needlessly far back of the posterior limit of the inflammation, which is usually sharply defined. The diseased membrane should now be carefully mopped again so as to remove every vestige of secretion. A mop of cotton-wool, on a stilet, charged with a solution of nitrate of silver (10 grains to the ounce), should be pushed through the endoscope tube and out at the distal end. The tube and the mop are then simultaneously withdrawn. For the two inches of urethra near the meatus a fresh mop is used, so as to completely saturate this part, where the disease commences, and the inflammation is most intense. Patients generally complain of slight pain afterward, which, however, passes away in the course of ten minutes. The patient is recommended to take a hot bath that night and remain in bed the following day. A saline purgative and an alkaline or copaiba mixture are given internally. From four to six times daily the patient should use a simple cleansing injection—say Condyl's fluid (one drachm to the pint). The forty-two cases treated in this manner have been cured in a little over twelve days; a few cases had lasted for some days, and some were associated with chordee. The principal points of this treatment are: (1) The urethra can be cleansed so that the application comes directly in contact with the diseased membrane. (2) The exact extent of diseased surface may be seen. (3) The remedy is applied when the urethral walls are stretched, so that all furrows are obliterated. They think that nitrate of silver is the best of all injecting fluids, from the fact that, in the strength of

1 to 2,000, it kills the organisms and produces very little irritation, and at the same time exerts a healing influence on the inflamed membrane.—*University Medical Magazine*.

Dermatitis following Local Application of Iodoform.—Hahn, in the *Therapeutische Monatshefte* for February, 1892, calls attention to the fact that authors differ as to the cause of the inflammation of the skin which sometimes follows the application of iodoform. Some ascribe it to the itching and consequent scratching of the part, and others as due alone to the action of the medicine. He quotes two cases which he has observed, and in which he thinks the inflammation was due to the iodoform alone. In both cases an inflammatory swelling arose after the application of iodoform to ulcerated regions. The skin was red, oedematous, and hot to the touch. At the same time a vesicular eruption spread from the periphery. The individual vesicles were close to one another, and were from the size of a millet-seed to a pea; the contents were bright yellow and clear. The first case was of short duration and disappeared by indifferent treatment. The second case was treated by a dusting powder of starch and zinc, and then with Lassar's salicyl paste, and was shortly cured. In neither of these cases did scratching occur in the region of the ulceration. An itching occurred first *after* using the iodoform.

Anomalies of Milk Secretion.—At the meeting of the Gynecological Society of Dresden, Dec. 10th, 1891, (reported in *Centralblatt f. Gynækologie*, No. 12, 1892), Rupprecht reported some interesting cases under the above title. He divided his cases into those of apparent milk secretion, absence of milk secretion, and milk secretion at irregular times. As examples of the first, he described cases in the newborn, in young girls, and boys at the age of puberty, when, in some instances, drops of colostrum could be squeezed out of the enlarged and hardened glands; in women with mammary tumours, either malignant or benign, from whose breasts could be squeezed a few

drops of a turbid or hemorrhagic fluid, in which could be found round and epithelic cells, cholesterin and bacteria, but no fat particles; in women with chronic eczema of the retracted, inverted or atrophied nipple, in whom the diseased surface kept up a constant weeping, that is often taken for milk secretion. As an example of entire absence of secretion, agalactia, the case of a woman, 33 years of age, was described. Two years before she had had her first child, which she had nursed out of the right breast for eight months. The left breast furnished a small amount of milk only for four months, then "water," and in a little while nothing. The gland on this side was hard and not easily held between the fingers. Rupprecht believed it to be the seat of pericanalicular fibroid formation, otherwise called cirrhosis of the breast, a condition necessarily interfering with functional activity of the gland, and furnishing, moreover, in its ultimate stage of shrinkage, the foundation for carcinomatous formation. As an example of milk secretion at odd times, Rupprecht described the following case: A woman, 43 years of age, had married at the age of 31, and had had five children. On account of retracted nipples she had never been able to nurse her children, but always had plenty of milk in the breasts. From the time of her first delivery the breasts had never been empty, and were to-day, two years after the birth of the last child, actively secreting. Since the last delivery there had developed in the right breast a lump, which a physician opened, thinking it an abscess. There was no pus; but a quantity of turbid fluid, stained with blood, ran out. A few days later there occurred the same phenomena seen on the third day after delivery—sudden congestion of the breasts and their engorgement with milk. The incision did not heal, but left a lacteal fistula. In endeavouring to slit this open, Rupprecht encountered a small new growth in the breast, which proved to be a carcinoma. The right breast was consequently amputated. The left breast still continues to secrete actively.—*Univ. Med. Magazine.*

Barbaric Midwifery.—Dr. J. K. Simpson of Alaska gives, in a recent number of the *Occidental Med. Times*, a sketch of the obstetric customs of the Alaskan Indians. His

observations were made in the south-east of Alaska. When a woman arrives at full term a tent or hut is erected, and a hole dug in the middle and lined with moss. When labour commences the woman goes to the hut and squats over the hole, as in the act of defæcation, grasping a pole driven into the ground in front. She is attended by three squaws; one sits behind her, and when a pain comes on clasps her arms firmly about the abdomen, while the other two women press firmly with their shoulders against the knees of the parturient woman. The child drops into the hole, occasionally breaking a bone or sustaining other injury. The umbilical cord is divided about four inches from the navel by twisting it and pinching with the nails, and is not tied. The squaws maintain their relative positions during the third stage of labour; a binder, consisting of two pieces of cloth or skin quilted together, and strengthened by pieces of bark, is applied, and the woman, if a primipara, remains where she is for ten days, but if a multipara, often goes about her work the first or second day; in neither case is she washed for ten days, so that antiseptic midwifery is not followed. In spite of this, puerperal fever appears to be uncommon. The child, after remaining in the hole five or ten minutes; is drawn out, and the midwife dresses the stump of the cord with a foul-smelling mass consisting of the leaves of some herb chewed months before. The child's face is wiped, and it is put unwashed into a bag, stiffened with bark, which covers all but the head. Certain superstitions exist as to the placenta and cord. As a rule the placenta is burnt and the ashes carefully preserved; when the individual dies the ashes of the placenta are placed with those resulting from the cremation of his body in a small burial house. When the stump of the cord becomes detached from the infant's navel it is enclosed in an embroidered buckskin cover and stitched to the front of the child's clothing, where it remains like a rosette until he is three or four years old. At that age the child goes into the woods and hides it.—*British Medical Journal*.



THE
Montreal Medical Journal.

VOL. XX.

MAY, 1892.

No. 11.

**ON THE DANGERS OF WASHING OUT THE
STOMACH.**

In the current number of the London *Practitioner* there is a valuable and timely article by Dr. Soltan Fenwick of London on the dangers of washing out the stomach. After pointing out the usefulness of this therapeutic measure in suitable cases, he deals with the dangers attending it, and the harmfulness arising from its employment in unsuitable cases.

Twenty-five cases of convulsive seizures in chronic diseases of the stomach are collected, and in six of these the attacks were apparently brought on by the use of the stomach tube. Both general convulsive seizures and tetany may be brought about by any irritation other than by mechanical means of the gastro-intestinal canal, but in some of the cases reported by Dr. Fenwick it is impossible to eliminate the stomach tube as being the active factor. Tetany arising from gastric disturbance is very fatal, upward of 60 per cent. proving fatal. A case of perforation of a gastric ulcer occurring immediately after the use of the stomach tube is reported. Hemorrhage from the use of the stomach pump is not uncommon in cases where there is at the time ulceration of the mucous membrane, as in carcinoma and chronic ulcer.

Dr. Fenwick has been able to collect three cases of boracic acid poisoning from the employment of this agent as an antiseptic in disease of the stomach; two of the three cases proved fatal. The irrigation of the stomach not having been thoroughly performed, a sufficient quantity of the acid remained behind, absorption of which proved fatal.

The proportion of cases in which any of the grave accidents related make their appearance is certainly very small, but the possibility of their occurrence should ever be before the practitioner's mind before deciding on using the stomach pump. In some quarters it has become a routine practice of late to wash out the stomach for nearly all affections of this organ. This is a practice not only of questionable benefit in many cases, but decidedly injurious, if not dangerous, in a considerable number. The employment of the stomach pump in the gastric neuroses can do no good, and may be productive of much harm.

A MILITARY MEDICAL ASSOCIATION.

It is proposed to form an Association of Medical Officers of the Militia of Canada, having the following objects:—

1. The bringing of medical officers in closer personal relation, and the development of a departmental *esprit de corps*.
 2. For discussion of matters relating to the medical department of the militia.
 3. For the discussion of military matters from a medical point of view.
 4. For reading of papers on military medicine and surgery, hygiene and equipment.
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COLLEGE OF PHYSICIANS AND SURGEONS OF THE PROVINCE OF QUEBEC.

We are indebted to Dr. Campbell, Registrar, for the following report:—

The half-yearly meeting of the Governors of the above College (Provincial Medical Board) was held in the Laval Medical School, Montreal, on the 11th inst. The Credential Committee met the previous day and examined the qualifications of all the candidates for the license, and the presentation of their report was the first business, after the chair had been taken by the Hon. Dr. Ross, President.

The number of licences granted was about forty-five, princi-



pally graduates from McGill, Laval and Bishops. Before the report of the committee was adopted,

DR. BEAUSOLEIL enquired how many of the candidates had presented certificates of preliminary examination from other Provinces than Quebec, and from what Provinces?

DR. F. W. CAMPBELL replied that eighteen had certificates from Ontario, three from Manitoba, and one from the University of Edinburgh; the remainder were from this Province.

Enquiry was made as to whether any reply had been received from the College of Physicians of Ontario to the communication sent from the Quebec College a year ago with a view of arranging a basis of reciprocity.

DR. CAMPBELL replied that last fall he had been informed that the Ontario College was, at its last meeting, so occupied with other matters, it had been found impossible to take the matter up, but he had hopes that it might be taken up at the meeting to be held in June.

A resolution was accordingly moved by Dr. Beausoleil, seconded by Dr. Fiset, to the effect that this College would not, in future, accept the preliminary examination of any Province which did not reciprocate with the Province of Quebec—the same to apply to graduates.

FIFTY-NINTH CONVOCATION OF THE MEDICAL FACULTY OF MCGILL UNIVERSITY.

The annual convocation for conferring degrees in medicine in McGill University took place on Saturday afternoon, April 2, in the William Molson Hall. Sir Donald A. Smith, who had come down from Ottawa for that particular purpose, was in the chair as Chancellor, and he was surrounded with the full Faculty. The hall was crowded, the students occupying the rear portion, the friends of the newly passed men the body of the hall, and the graduates, some fifty in number, had seats specially reserved for them directly in front of the platform. Rev. Dr. Cornish opened the proceedings with a short prayer, after which Dr. Craik read the class and honor lists. Then

came to the students the most interesting portion of the programme. Mr. T. Jameson was asked to step forward to receive the Holmes gold medal at the hands of Sir William Dawson. The other recipient of a similar honor was Mr. A. Davidson, who was presented with the Sutherland gold medal.

The ceremony of conferring degrees also fell to the lot of Sir William Dawson, assisted by Dr. Ruttan. This portion of the programme passed off quietly enough.

Dr. T. JAMESON, as gold medalist of the class of '92, had to perform the office of reading the valedictory for his colleagues, a task which he discharged to the satisfaction of everyone. He referred in feeling terms to the loss sustained by the class in the deaths of the late Dean Howard and Dr. MacDonnell, and discussed other matters of interest to his own class and to the students generally.

Dr. RODDICK then delivered the Faculty valedictory. (See page 801.) After which,

Dr. CRAIK, Dean of the Medical Faculty, made the following address:—

After the ceremonies and addresses which to-day have marked the close of the fifty-ninth session of our Medical Faculty, it may, perhaps, be proper for me to add a few words having reference to the conduct of the session, to the changes of *personnel* which have occurred since our last meeting of convocation, and to allude very briefly to the progress and future prospects of the Faculty as an integral portion of the University.

The actual working session has not been an eventful one in any special sense. The students have been regular in their attendance and attentive to their studies: Their conduct has been everything that their best friends could desire, and the results of the examinations have borne good testimony to the earnestness and intelligence with which they have applied themselves to their work.

It can scarcely be necessary for me to remind those whom I am now addressing of the great—I had almost said the irreparable—loss which this Faculty and the University sustained by the death, last summer, of one of their brightest ornaments, Dr. Richard MacDonnell, the able and accomplished Professor of Clinical Medicine. Though young in years, he

was ripe in all those qualities which make such a life valuable and useful. Talented, highly educated and accomplished, he was a born teacher and leader of men, and particularly of young men. Amongst them his influence was almost unbounded, and always and entirely for good. His was a nature that could not conceal its contempt and dislike for everything that was mean or ignoble, and nothing savoring of dishonesty, license or vulgarity could survive in the pure atmosphere with which he was always surrounded. Nature had endowed him, in an uncommon degree, with those gifts and graces which fit so well into our ideal of a perfect man, of a gentleman in the highest sense of the word. It was my privilege to have known him intimately from his childhood upwards, and if it were permitted to us to follow him into the domestic circle where, perhaps, the true character of a man is better known than almost anywhere else, I could tell of him as the most loving and devoted of sons, the most warmhearted and helpful of brothers, the best and truest of husbands. The influence of such a man lives after him, and it is some consolation to know that the memory of his virtues will tend in some degree, at least, to assuage the grief that otherwise would be inconsolable.

Happily for the Faculty, circumstances pointed plainly to his best possible successor. Associated with him in the work of Clinical Medicine during the session of 1890-91 was Dr. James Stewart, then Professor of Pharmacology and Therapeutics. Dr. Stewart having already shown his fitness for the work of Clinical Medicine, he was, with the full concurrence of the Faculty and of every one connected with the University, appointed to the vacant Chair.

The Chair of Pharmacology and Therapeutics having become vacant by the resignation of Dr. Stewart, the professorship was conferred upon Dr. Alexander D. Blackader, B.A., a graduate in medicine and in arts of this University. Dr. Blackader brings to the work of his chair the learning, the ability, the earnestness and the energy which have characterized him throughout his career, and which eminently fit him for the important work which he has undertaken.

In the chair of Theory and Practice of Medicine also we have the satisfaction of seeing Professor George Ross again at

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several years. The panic which followed the outbreak of smallpox in 1885 brought our numbers down from 237 in 1884-85 to 227 in 1888-89. In 1889-90 the number rebounded to 261, but in 1890-91 there was no increase, possibly because in that year we had been compelled, in consequence of our gradually increasing expenses, to add somewhat to the amount payable by students entering on and after that date. This year, however, the number of our students has risen to 291, a number greater by 30 than in the preceding year, and, of course, greater than in any year in the history of the Faculty. This is particularly gratifying to us at the present time, for it shows us that, notwithstanding many changes and many depressing influences, we have still been able to retain the confidence and the good will of those friends throughout the length and breadth of the land, on whom we have always relied in maintaining our leading position among medical schools. But there is another circumstance connected with the number of students this year which calls for more than a passing mention, and which is peculiarly pleasing to us. It is that among the various provinces and countries from which our students are drawn, Ontario still maintains its leading position, with 115 students. The Province of Quebec comes next with 105, and then follow, in the order of their numbers, New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, the United States, British Columbia, the West Indies and Newfoundland.

But, it may be asked, what is it that enables the Medical Faculty of McGill University—in Montreal—in the French province of Quebec—in the face of disadvantages of climate, of varied and often adverse medical legislation, of local and other influences, to attract students from other and more favored provinces and countries? The principal reason is that, being aware of the disadvantages under which we labor, we have striven with the greatest earnestness to utilize to the utmost such advantages as we happen to possess. Chief among these is our unrivalled field for clinical instruction, for it may safely be claimed for the hospitals and charities of Montreal, and for the old Montreal General Hospital in particular, that no institutions on this continent, and very few in any part of the world, have done more for the cause of

sound and practical medical education. To the credit also of our medical students let it be said, that so uniformly decorous and seemly has been their conduct while in the wards of the hospital that it has never been found necessary to exclude them, as has only too often been the case elsewhere.

But great as have been our facilities for practical medical instruction, they are soon largely to be increased by the opening of that magnificent pile now approaching completion, the Royal Victoria Hospital, the joint gift of our large-hearted Chancellor, Sir Donald A. Smith, and another large-hearted and warm friend of this university, Lord Mount-Stephen. It would, of course, be premature to attempt at present to gauge the benefits likely to accrue to us from the opening of this noble institution; but whatever our opportunities may be, it behooves us to see to it that they are utilized to the utmost in the cause of suffering humanity and of sound, scientific medical learning.

The functions of large hospitals in their relations to medical education have been considerably changed of late years, and these changes have been becoming more and more pronounced from year to year, chiefly in the direction of minute modern pathological research. Modern microscopic and bacteriological investigations have shown that this universe of ours is apparently as limitless and as potent for good or evil in its minuteness as it is in all its vastness, and while the Astronomer and the Spectroscopist are from time to time discovering and analyzing new nebulae and stars and comets, of whose influence upon ourselves we are only as yet dimly suspicious, the Pathologist and the Microscopist are every now and then detecting some new form of bacillus, bacterium or microbe, whose influence upon our minds and upon our bodies has been only too well shown to be deleterious and deadly. Pathology has become the necessary complement to medical practice. It is the key by which its mysteries may be unlocked, the test by which its processes may be verified and corrected. Such being the case it will at once be seen how imperfect any system of medical education must be where pathological research does not play a prominent part, and how great must be the advantage to those institutions where its importance is properly recognized and duly provided for.

A properly equipped Pathological department in connection with our medical school, with a well trained and skilful professor, would go far towards placing our Faculty on a permanently self-sustaining basis; for with our unrivalled hospital facilities rendered thus more valuable than they could ever otherwise become, we could fairly ask of the student to submit to such slight modification of the fees, as would be sufficient to convert our present constant state of financial weakness into one of permanent and assured strength.

Our late lamented Dean, Dr. Robert Palmer Howard, had deeply at heart the importance of such an achievement. A well equipped and adequately endowed Chair of Practical Pathology was the dream of his declining years. Will not those who loved him and respected him for his many noble qualities, help us to realize his dream?

Sir DONALD SMITH supplemented the remarks of Dr. Craik. He said he had already apologized for not being present before, but the loss was his, not theirs. This was the fifty-ninth convocation of the medical faculty of McGill, and when they looked back not fifty-nine, but only twenty-five years, what a difference there was in the faculty and what immense strides had been made by the university. Now it was a household word on the continent of America, and justly celebrated in the old world as a university where one could get a medical training second to none. Those who had gone out from it already proved it. Not only as medical men, but as gentlemen, were they determined to hold a high place in the world. Not only in Canada, but in America, there were to be found graduates of McGill, and if not wealthy, they were, at least, laying the foundation of a future competence. Dr. Roddick gave kindly advice when he told the class of '92 to go through life not only in a manner not to discredit the Alma Mater, but to add fresh lustre to her fame. "I believe you will do that," continued the Chancellor, "and keep up the record of old McGill. Your Dean has spoken of a pathological professorship. I hope the day is not far distant when this will be an accomplished fact." Sir Donald concluded by saying: "There is no more honorable profession than that of medicine. It is more so than politics; but when medical men have secured a compe-

tence and see that their country needs them, then let them enter the arena of politics. It is such men the country requires to guide her."

Dean Carmichael gave the benediction and the Convocation was ended.

The total number of students enregistered in the Medical Faculty during the past session was 291, of whom there were from—

Ontario.....	115	United States.....	7
Quebec.....	105	Manitoba.....	7
New Brunswick.....	27	British Columbia.....	4
Nova Scotia.....	12	West Indies.....	3
P. E. Island.....	10	Newfoundland.....	1

The following gentlemen have passed their Primary Examination, which comprises the following subjects: Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Physiology, Practical Physiology, Histology and Botany:—

Bazin, A. T.....	Montreal
Brouse, J. E.....	Brockville, Ont.
Byers, G. M. W.....	Gananoque, Ont.
Carroll, R. W.....	Stratford, Ont.
Davidson, A.....	Burns, Ont.
Drysdale, W. F.....	Perth, Ont.
Fergusson, W.....	Pictou, N.S.
Fowler, E. S.....	Hudson, Wis.
Fry, J. M.....	Montreal.
Gorell, C. W. F.....	Brockville, Ont.
Haight, M.....	New Durham, Ont.
Hall, M. K.....	Franklin Centre, Que.
Hamilton, G.....	Bright, Ont.
Hanington, J. P.....	Montreal.
Hart, E. C.....	Baddeck, N.S.
Henderson, W.....	Dickenson, Ont.
Holohan, P. A., B.A.....	Newcastle, N.B.
Jacques, H. M.....	Upper Dyke, N.S.
King, H. S.....	Sarnia, Ont.
Kinghorn, H. McL., B.A.....	Montreal.
Masten, C.....	Lacolle, Que.
Matheson, R.....	Cardigan, P.E.I.
McCarthy, G. S.....	Ottawa.
McCrea, J. J.....	Laggan, Ont.

McLaren, J. F.	Belle Creek, P.E.I.
McLaughlin, J. A.	Avonmore, Ont.
McIntosh, L. Y.	Strathmore, Ont.
McKenzie, L. F.	Montreal.
Manchester, G. H.	Brighton, Ont.
Mathewson, G. H., B.A.	Montreal.
Mitchell, W.	Lachute, Que.
Neill, J.	Aylmer, Que.
Nicholls, A. G., B.A.	Newry, Ont.
O'Connor, E. J.	Ottawa, Ont.
Pritchard, J., B.A.	N. Wakefield, Que.
Richardson, A.	South March, Ont.
Rimer, F. E.	Bryson, Que.
Robertson, A. A., B.A.	Montreal.
Richardson, H. J.	Chesterfield, Ont.
Ross, D. W.	Grand Falls, N.B.
Ross, H.	Glenshee, N.S.
Ross, J. J.	Dewittsville, Que.
Shaw, H. S.	Montreal.
Shillington, A. T.	Kemptville, Ont.
Stenning, W. A.	Coaticook, Que.
Wolf, C. G. L., B.A.	Winnipeg, Man.
York, H. E.	Metcalfe, Ont.

The following gentlemen, 56 in number, have fulfilled all the requirements to entitle them to the degree of M.D., C.M. from the University. In addition to the Primary subjects mentioned, they have passed a satisfactory examination, both written and oral, on the following subjects: Principles and Practice of Surgery, Theory and Practice of Medicine, Obstetrics and Diseases of Infancy, Gynæcology, Pharmacology and Therapeutics, Medical Jurisprudence, Pathology and Hygiene,—and Clinical Examinations in Medicine, Surgery, Ophthalmology, Obstetrics and Gynæcology conducted in the wards of the General Hospital and Montreal Maternity :—

Berwick, G. A.	Farnham, Que.
Binmore, J. E.	Montreal, Que.
Bowen, G. A.	Coaticook, Que.
Boyce, B. F.	Norham, Ont.
Brown, F. W. A.	Brockville, Ont.
Brouse, J. E.	Brockville, Ont.
Bruce, D. A.	Grandview, P.E.I.
Brunette, J. E.	Cornwall, Ont.
Carmichael, H. B.	Montreal, Que.
Chabot, J. L.	Ottawa, Ont.

Chipman, R. J.....	Halifax, N. S
Day, A. R. A.....	Guelph, Ont.
Duncan, G. H.....	Duncanville, Ont.
Girdlestone, C. W.....	Winnipeg, Man.
Glendenning, R. F.....	Trumanville, N. S.
Graham, W. C. R.....	Prescott, Ont.
Grant, H. A.....	Cardigan, P. E. I.
Halliday, V.....	Peterboro, Ont.
Hayes, P. J.....	Montreal, Que.
Henderson, J.....	Markworth, Ont.
Hogg, D. W.....	Winnipeg, Man.
Jack, Du Vernet.....	Montreal, Que.
Jameson, T.....	Rochester, N. Y.
Johnston, A.....	Ottawa, Ont.
King, H. S.....	Sarnia, Ont.
Lang, F. W.....	St. Mary's, Ont.
Langley, A. F.....	Victoria, B. C.
McCann, A. E. A.....	Montreal, Que.
McKay, D. T.....	Clifton, P. E. I.
McKenty, J. E.....	Montreal, Que.
McKenzie, R. T.....	Montreal, Que.
McKinnon, O. T.....	Kinross, P. E. I.
McNally, H. H.....	Fredericton, N. B.
Mair, A. W.....	Clinton, Ont.
Martin, C. F.....	Montreal, Que.
Martin, T. H.....	Savages Mills, Que.
Massiah, W. B. H.....	Barbadoes, W. Indies.
Meade, C. J.....	Morrisburgh, Que.
Meikle, W. F.....	Morrisburgh, Que.
Neill, J.....	Aylmer, Que.
Paterson, L.....	Harbour Grace, N. Fld.
Peake, J. P.....	Fredericton, N. B.
Phelan, E. D.....	Montreal, Que.
Robinson, B. E.....	Orillia, Ont.
Rogers, W.....	Montreal, Que.
Smith, W. H.....	Winnipeg, Man.
Taplin, M. M.....	Addison, Ont.
Taylor, T. T.....	Chatham, Ont.
Taylor, J. N.....	Ottawa, Ont.
Tompson, J.....	Moulinette, Ont.
Travers, J. B..	St. John, N. B.
Wade, A. S.....	Perth, Ont.
Walker, W. G.....	Stratford, Ont.
Walsh, T. N.....	Ormsdown, Que.
Walsh, W. E.....	Ormsdown, Que.
Wasson, H. J.....	Peterboro, Ont.

Messrs. H. S. King and H. H. McNally have passed all the examinations required for the degree of M.D., C.M., but are not of age. They will receive their degree on attaining their majority.

HONORS AND PRIZES.

The following Gentlemen have obtained First Class Honors in the Final Subjects :—

1 Jameson, Thos.	6 Wasson, H. J.	11 Walker, W. G.
2 Henderson, Jas.	7 Hayes, P. J.	12 Wade, A. S.
3 Massiah, W. B. H.	8 Taylor, T. T.	13 Bowen, G. A.
4 Day, A. R. A.	9 Chabot, J. L.	14 Berwick, G. A.
5 Martin, C. F.	10 Chipman, R. J.	15 Boyce, B. F.

The following Gentlemen obtained First Class Honors in Surgery and Clinical Surgery :—

1 Jameson, Thos.	6 { Bowen, G. A.	13 Day, A. R. A.
2 Henderson, Jas.	6 { Walsh, W. E.	14 Walker, W. G.
3 Martin C. F.	9 { McKenty, J. E.	15 { Smith, W. H.
4 Massiah, W. B. H.	9 { Martin, S. H.	15 { Taplin, M. M.
5 Chabot, J. L.	9 { Taylor, T. T.	17 { Binmore, J. E.
6 Chipman, R. J.	9 { Wasson, H. L.	17 { Halliday, V.

The following Gentlemen obtained 1st Class Honors in Medicine and Clinical Medicine :—

1 Jameson, Thos.	7 Martin S. H.	13 Bowen, G. A.
2 Massiah, W. B. H.	8 Henderson, J.	14 Boyce, B. F.
3 Wasson, H. J.	9 Walker, W. G.	15 Lang, F. A.
4 Day, A. R. A.	10 Langley, A. F.	16 McKay, D. T.
5 Hayes, P. J.	11 Wade, A. S.	
6 Martin, C. F.	12 Chipman, R. J.	

The following Gentlemen have obtained Honors in Obstetrics and Gynæcology :—

1 Henderson, J.	7 Binmore, J. E.	13 Walker, W. G.
2 Massiah, W. B. H.	8 Chabot, J. L.	14 Muir, A. W.
3 Day, A. R. A.	9 Wade, A. S.	15 Paterson, L.
4 Jameson, Thos.	10 Boyce, B. F.	16 Chipman, R. J.
5 Berwick, G. A.	11 Martin, C. F.	17 Taylor, T. T.
6 Wasson, H. J.	12 Lang, F. A.	

PROFESSOR'S AND DEMONSTRATOR'S PRIZES.

BOTANY	X. L. Anthony.
ZOOLOGY.....	P. C. Leslie.
CLINICAL CHEMISTRY.....	J. Henderson.
SENIOR ANATOMY.....	L. Y. McIntosh.
JUNIOR ANATOMY.....	{ W. W. Wickham. F. L. Thomson.

Personal.

—Our old friend and colleague, Dr. Wm. Osler, was married a few days since to the handsome and accomplished widow of the late Dr. Samuel S. Gross of Philadelphia. They have our earnest wish for a long and happy life.

—Dr. James Stewart, Professor of Clinical Medicine, McGill University, and one of the editors of this JOURNAL, has gone to Vienna, and will be absent from the city for about two months.

—An election to fill the positions of Resident Medical Officers of the Montreal General Hospital was held last month, and resulted in the appointment of Drs. Jas. Henderson, H. J. Wasson, C. F. Martin, W. H. Smith, and R. T. McKenzie,—all graduates of McGill Medical Faculty. Drs. Berwick and Boyce, graduates of this year, have been appointed Resident Physicians to the Montreal Maternity.

Medical Items.

SALICYLATE OF LITHIA.—Dr. Vulpian states that salicylate of lithia is more efficacious than salicylate of soda in cases of acute and progressive subacute articular rheumatism. It also has some effect in chronic cases when a certain number of the joints are still deformed, swollen and painful.

ANTIDOTE FOR HYDROCYANIC ACID.—Prof. Kobert has proven experimentally that hydrogen peroxide is an antidote for hydro-

cyanic acid poisoning. It is to be given both by the mouth and hypodermically until all symptoms subside, and the odour of the acid can no longer be recognized in the exhalations.

—Thiol is recommended as a substitute for ichthyol in the treatment of skin diseases, because it is clean and never irritates, while ichthyol is impure and often irritates; ichthyol smells disagreeably, thiol does not; ichthyol spots the linen, thiol does not; moreover, its cost is about half that of ichthyol.—*American Druggist*, April 15, 1892.

MONOBROMIDE OF CAMPHOR FOR SPERMATORRHOEA.—The *Medical Summary* says: The monobromide of camphor has been successfully used in the treatment of spermatorrhoea, where a host of the usual remedies had been administered with no satisfactory results; finally the monobromide of camphor was given with prompt effect and perfect cures.

INCRUSTATIONS ON PERMANENT CATHETERS AND HOW TO DISSOLVE THEM.—Drs. De Pessier and Sommerat (*Le Bulletin Médical*, No. 7, 1892) find the deposits which incrust upon permanent catheters may be divided into two classes: whitish incrustations, consisting of phosphates of lime or ammonia and magnesia, which also contain a certain quantity of organic elements; and yellowish deposits, soluble in alkaline solutions, and which consist of the urate of soda, free uric acid, and sometimes a little of the oxalate of lime. The yellowish deposits are easily dissolved by a dilute alkaline solution—carbonate of lithia, bicarbonate of soda, Vichy water, etc.; the whitish are removed by a dilute solution of some acid—carbonic acid, phosphoric acid, lactic acid, etc. Hence when a catheter is to remain for some time in a patient's bladder his urine should be examined and injections of these solvents made into the bladder now and then to dissolve the deposits upon the catheter.—*Lancet-Clinic*.

THE MONTREAL MEDICAL JOURNAL.

A REVIEW OF MEDICINE, SURGERY AND OBSTETRICS,
AND CHRONICLE OF HOSPITAL PRACTICE.

EDITED BY

GEORGE ROSS, M.A., M.D.,

Professor of Practice of Medicine, McGill University.

THOS. G. RODDICK, M.D.,

Professor of Surgery, McGill University.

AND

JAMES STEWART, M.D.,

Professor of Clinical Medicine, McGill University.

JUNE, 1892.

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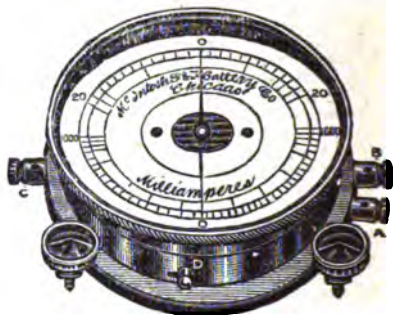
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THE
MONTREAL MEDICAL JOURNAL.

VOL. XX.

JUNE, 1892.

No. 12.

Original Communications.

PSYCHOLOGY IN MEDICINE.

AN ADDRESS DELIVERED TO THE MEDICAL SOCIETY OF MCGILL
COLLEGE.

BY PROF. J. CLARK MURRAY, LL.D.

A recent writer on the diseases of the nervous system has remarked that "the practice of medicine is not only one of physic but of psychology, and that the effect of drugs depends as much on the constitution of the patient's mind as on that of his body." This puts the matter in a stronger form than I should be inclined to express myself; but it indicates the opinion of an eminent authority, that there is a very real relation between the mind and the body, and that that relation is one which it is important for the medical practitioner to keep in view. It is quite true that this relation is one which it is extremely difficult, if not impossible, to explain; indeed, the relation of mind and body has been from of old regarded as among the incomprehensible facts of the universe. Consequently, we find numerous theories on the subject, running all the way between the most opposite extremes both in speculation and in practice. For at one extreme of speculation we come upon the theory of materialism,* which endeavours to explain mind as a function of matter; while the opposite extreme is represented by an idealism which maintains that matter has no meaning except as an exponent of mind. In like manner the practical conduct of men shows, at one extreme, a sensuality which makes all the energies of mind subservient to the pleasures of the body; while the

other extreme runs towards an asceticism which strives in vain to reach a life of the soul in disregard of all bodily wants.

The perplexity arising from these discordant theories and practices may, perhaps, account for the fact that some scientists have been driven to what seems at first like a mere paradox, that there is no real relation between mind and body at all. This paradox first assumed definite shape in the philosophy of one of the great French thinkers of the seventeenth century, viz., Descartes. Descartes maintained that mind and body constitute two substances which are entirely independent of one another, and that, therefore, there is no interaction between the two. As a result of this, it was contended by Descartes that the mere animal is a material automaton, that it has no soul or mind at all. Descartes, indeed, was not the first to maintain this theory. He was anticipated, it seems, by a forgotten scientist of the previous century, a Spanish physician of the name of Pereira; and, curiously enough, there was a contemporary of Pereira, also a forgotten scientist, of the name of Rorarius, who maintained a theory at the opposite extreme from that of Pereira and Descartes. He contended that the lower animals have minds essentially similar to that of man, and even went the length of holding that many of them use their reason a great deal better than we do. Those of you who may be interested in this subject might consult the old dictionary of Bayle, under the articles on Pereira and Rorarius; for these contain a vast collection of curious information, which is not to be found easily elsewhere, on the history of the theories to which I have just referred. But, to come back to the doctrine of Descartes, that mind and body have no real connection with one another, I may observe that that theory seems to be favoured by some of the scientific thought of our own day, and especially among that school of thinkers who are commonly known by the name of Agnostics. It is not an uncommon feature of agnosticism to maintain that mind and matter are simply different phenomena or manifestations of one unknowable substance or force, but that they have no real or causal connection with each other. For instance, you will find occasionally in the writings of Huxley expressions which

seem to indicate his belief in this doctrine. That is especially the case with an interesting paper of his on the theory that animals are automata,—a paper which seems to have been suggested by a study of Descartes, and in which he endeavours to show how Descartes' doctrine is confirmed by some of the discoveries of modern philosophy. It may, therefore, be worth while to stop for a moment and consider what this theory with regard to the relation of mind and body implies. Now, I do not know that anyone is in a better position to test the theory by facts than the medical practitioner; for try to realise what medical practice would imply on this theory. Suppose, then, a patient in whose organism a morbid process begins. If that morbid process is not in the nervous tissues themselves, it will by-and-by attack these tissues and send a thrill up into the brain. Reacting from this excitement, the brain sends a stimulus along the motor nerves, sets the limbs of the patient in action, and causes him to move towards the residence of his medical adviser. There the vocal organs of the patient are set into activity, and produce vibrations of the air which strike upon the ear of the doctor, who is led in his turn to move the organs of his voice, and probably also to move his fingers for the purpose of writing out a prescription. The prescription is taken to an apothecary and made up, and ultimately administered to the patient. Now, according to the theory of Descartes, all this would go on precisely in the way in which it actually happens, even if there were no conscious thought or feeling either in the patient or in his medical adviser; that is to say, the purely physical or bodily actions are totally separate from any mental or conscious actions, and the two have no influence upon each other. I venture to say, however, that if the matter is put in this form, the theory of Descartes becomes obviously incredible. It may well be feared that, if a patient had no thoughts and feelings of a painful character, there would be very little chance of his proceeding to take medical advice and very little chance of the practitioner obtaining any fees. But the theory may be tested in another way; it may be tested in the light of modern evolutionism; for how is the origin of pain and pleasure to be explained on any

evolution theory? It must be supposed that the conscious feelings of pain and pleasure, when first experienced, gave to the animal that experienced them a certain advantage in the struggle for existence. If they did not, they would soon have vanished from the universe as mere *lusus naturæ* that fulfil no function. But the fact is, that pleasure and pain have remained through innumerable generations among the most prominent phenomena of animal life, and their continuance implies that they do fulfil some function, that they do give to animals a certain advantage in the struggle for existence. They can give this advantage, however, only if they have some causal efficiency, and consequently the conscious feelings of pleasure and pain must have a real influence upon the life of animals.

There must, therefore, be a real relation between mind and body; but, although the relation is a reality, science is not in a position to lay down any very general law on the subject. In fact, it is well always to be on our guard against the craving for sweeping generalizations before we have mastered the particular facts upon which our generalizations are to be founded. This caution, I may observe, was the great reform that Lord Bacon introduced into modern science. He pointed out that the fault of ancient and mediæval science consisted in leaping at once to the very highest generalizations, instead of being content with careful observations and with generalizations of a less sweeping character. He consequently recommended that we should form, first of all, what he called *axiomata media*; that is, axioms of a middling degree of generality. In fact, in science, as in common life, the familiar proverb holds good of "the more hurry the less speed." In science, as in common life, we have often to proceed slowly in order to be certain of reaching our end at last. Now, this is peculiarly the case with regard to the difficult problem of the relation of mind and body. It is better, therefore, to be content with the observation of particular facts and the formation of particular laws of moderate generality based upon these facts. Now, we find that science has already accumulated a large number, not only of useful observations, but of important special laws; and it may be worth while to illustrate these by a few

examples. Science may approach the relation of mind and body from two sides, either from the side of the body or from that of the mind.

I. Let us take the former first. Here the object of science is to find out those bodily conditions under which our conscious thoughts and feelings arise. Now, there is little difficulty with regard to the lower phase of our mental life,—that which is connected with bodily sensation. Here any man of average intelligence can at once observe at least the general conditions under which sensation is excited in the different bodily senses, and science is continually rendering such general observations more specific and exact. Thus it is not uncommon, in the psychology and physiology of the present day, to distinguish the sense of touch as the *mechanical* sense, because mechanical pressure forms the physical condition of its sensations. On the other hand, taste and smell are very often distinguished as *chemical* senses, because we have good ground for believing that the physical condition of their sensations is some kind of chemical action. Indeed, this may be said to have been proved in the case of smell. The effluvia of bodies apparently require to mingle with the oxygen of the atmosphere before they can excite the sensation of odour; and, consequently, bodies, like carburated hydrogen, which do not readily combine with oxygen, are inodorous, and if the effluvia of a body are accompanied with a current of carbonic acid gas, which, of course, prevents oxidation, no odour is excited. Only those who have given some attention to physiological psychology in recent times can form any idea of the extent to which science has enlarged and corrected our knowledge with regard to the physical conditions under which different sensations are excited.

But it is not merely in the lowest department of mental life that the action of the body upon the mind is to be traced; the mental condition in general is evidently influenced to a very serious extent by the condition of the bodily organs. For instance, anyone who is suffering from dyspepsia, or even from a brief attack of indigestion, knows what a gloomy state of feeling is apt to be its accompaniment. In fact, from of old it has been

known that gloomy moods of the mind are very intimately connected with the condition of the liver ; our word "melancholy" is simply a Greek word which means "black bile," and the Greek word was commonly used in its figurative sense as far back as the fifth century before Christ. A similar remark may be made with reference to the spleen, which is also a Greek word, and which was used by the ancient Greeks very much as we employ it,—not merely to denote one of the organs of digestion, but also peculiar mental moods that are supposed, though for no definite reason, to be in some way dependent upon that organ. In general, when the lower intestines are out of order, the mental condition is one of a gloomy kind. There is therefore a psychological foundation for the humorous remark of an old clergyman that he had never known of a hopeful and cheerful death-bed when the seat of disease lay below the diaphragm.

But not merely sensation and emotion, intellectual life also is dependent upon the condition of the body. That is obviously the case, for example, with the common bodily conditions of health and disease, of vigor and fatigue. Evidently intellectual work can be done with far greater ease during the fresh hours of the morning than at the end of a laborious day. It seems also that there are certain subtle conditions of the body which have an intimate connection, that we do not yet fully understand, with intellectual life ; for instance, it is well known that the muscles of idiots display a want of that firmness and tonicity which is characteristic of healthy muscular tissue. It is an interesting fact that Laura Bridgeman, whose delicate touch made up to a marvellous extent for her want of sight and hearing, could detect mental imbecility by a peculiar flabbiness or softness in the touch of a person's hand. Now, it is true that we are not able to lay down any universal law with reference to the interaction between bodily and intellectual life, but science is in a fair way to discover particular laws that may be found to be of great practical utility. For instance, it seems now to be tolerably well established that the faculty of speech depends upon a certain portion of the brain, a little behind the left temple. In fact, recent physiology has shown that there are two defects

in the faculty of speech, two forms of aphasia, that are connected with different parts of the brain. One is called motor aphasia. In this deficiency the patient can understand what is spoken, but cannot speak himself. Now, this form of aphasia is found to be connected with a convolution which has attained its name from Broca. But there is another kind of aphasia which is known as sensory or auditory. In this deficiency the patient can utter sounds, but cannot understand what is said to him. This is found to be connected with a convolution a little behind and above that of Broca, a convolution which obtains its name from another physiologist, Wernicke. It is not only, however, the faculty of speech, but other faculties, that are dependent upon bodily conditions. It has long been known, for example, that memory is very profoundly affected by the state of the brain, so that injuries and diseases of the brain play at times the strangest freaks with the patient's power of recollection. It need not be added that the higher power of reasoning is also affected by the condition of the brain, because the various forms of insanity may be said to indicate the effects which diseases of the brain produce in impairing the reason of man.

It appears, then, that the state of the body has a very powerful influence upon the state of the mind ; and the question is naturally suggested, whether there is any general law that can give a full description of this influence. In seeking such a general law it is well to remember the caution already given against the seduction of sweeping generalizations. This was the fault of that old theory which occupied a prominent place in the earlier part of this century under the name of phrenology. The phrenologist had got hold of an important truth, but instead of being content with that truth, he attempted to carry it out to an extent which was altogether impossible in the state of science at that time, or, indeed, even in the state of science at the present day. We are yet very far from being in a position to map out the different parts of the brain as the old phrenologists did, allocating them to different mental functions ; and therefore the most scientific physiologists of our time are content to make careful observations of facts and to form such cautious general-

izations as these facts seem to support. Now, there is one general law which has been announced by an eminent German physiologist of the name of Fechner, a law to the effect that to increase the intensity of any mental state in an arithmetical ratio you must increase the stimulus in a geometrical ratio. This law of Fechner's is, however, too sweeping, perhaps, to be regarded as satisfactorily established by anything that we know on the subject. The general fact, indeed, expressed in this law has long been known; and perhaps it is to be regarded as merely a particular application of a universal law, that, as an increase in any effect implies an increase of the resistance to be overcome, the force required must be increased at a much higher ratio than the effect which it is designed to produce. But while the general fact has long been well known, it is questionable whether science is yet in a position to express that fact with the mathematical precision which has been given to it in the law of Fechner. There is, indeed, always a danger in applying terms of mathematical exactness to subjects which scarcely admit of being exactly defined. That was the case, I may observe, with the famous law of Malthus in regard to population. Malthus contended that population tends to increase in a geometrical ratio, while the means of subsistence increase merely in an arithmetical ratio. But even the most earnest Malthusians of more recent times, like John Stuart Mill, have dropped the mathematical formula of this law, and are content to maintain merely that population tends to increase faster than the means of subsistence.

In regard to Fechner's law, probably we shall require to be satisfied with a similar vagueness of statement; and whatever statement we adopt, we must always bear in mind some very important qualifications to which the law is subject. For instance, every stimulus depends for its effect upon the state of the nervous system at the time. The same stimulus produces very different effects in health and in disease, in vigour and in fatigue. Perhaps, in fact, the freshness with which nature seems invested in the morning may depend upon the fact that our nervous system has been invigorated by the sleep of the night

before, and consequently the eyes receive a much more intense impression than they are capable of feeling after they have become exhausted by the day's labour. But not only does the state of the nervous system modify the effect of a stimulus, the mind also forms an important factor. You may attend to a stimulus or not, as you choose; and everyone knows that an impression to which no attention is given may produce comparatively little effect upon the mind, whereas the very same impression may produce a very profound effect if the attention is directed to it.

II. This, however, indicates that the mind itself is a factor which has to be taken into consideration, and therefore we may now pass to the second aspect in which this subject may be considered, that aspect in which we approach it from the side of the mind. As the body influences the mind, so the mind influences the body. For instance, it is well known that the feelings of the mind manifest themselves in peculiar bodily actions, which form, in fact, their common modes of expression. The expression of emotion is a subject that has long attracted attention, and Mr. Darwin especially has given an interest to it by his well-known work, "The Expression of the Emotions in Man and the Lower Animals." Without attempting here any general theory on the subject, it is sufficient to notice that different emotions affect different organs of the body or affect them in different ways. For instance, emotions of a cheerful character are apt to manifest themselves in a smile; the emotion of anger naturally furrows the brow into a frown; while grief most naturally excites the lachrymal glands of the eye and causes the effusion of tears. Here, however, we may notice the difficulty of laying down any very rigid universal law on the subject, because while the emotion of grief is commonly regarded as the natural cause of tears, these are not unfrequently excited by the opposite emotion of joy, as well as by the very different emotion of anger; and it has been noticed that the deepest griefs of all are those which are absolutely tearless. It is sufficient for our purpose, however, to notice the general fact that emotions do excite different organs of the body, and excite them to different kinds of action.

Sometimes, also, bodily sensations are produced by mental causes. For instance, if you see a painful wound in another person, you are very apt to feel a thrill of painful sensation shooting through the same part of your own organism which corresponds to that of the wound in the other person. Probably most medical students have had some experience of this on being present at painful surgical operations. This, in fact, forms the natural basis of sympathy in the human mind ; and it is obvious that the sympathetic effect is caused by the spectator realizing vividly in his own consciousness the pain which is felt by the sufferer. Now, if by a strong effort of imagination you can vividly represent any sensation to your mind, that sensation will be actually reproduced in your own consciousness, will be actually felt by you as if it had been produced by some cause in your own organism. Indeed, there is good ground for believing that, in many, if not in all such cases, there is some real change of tissue, just as when the sensation is produced by an external agent ; and there are numerous instances on record where genuine morbid states of tissue have been produced by the mere effect of vivid imagination. For instance, to take one out of a multitude of examples, I recollect a case recorded in a recent work on the influence of the mind upon the body, the case of a mother who saw her child with his foot just at the hinge of a heavy iron gate that was being closed. For a moment she had all the agony of realizing that her child's foot was about to be severely crushed in the hinge of the gate. Fortunately, the little foot just missed the gate, but the influence upon the mother was strikingly indicated by the fact that on the following day there was a veritable serious swelling on her foot, which did not disappear for some time afterwards. Any work on the subject, however, will give you numerous examples of the same effect.

To indicate the attitude of science towards this subject at the present day, it may be said that there is a tendency to look with a more kindly eye upon some stories that have come down to us from an earlier period and have been regarded as mere superstitions. Take, for example, the famous story of St. Francis of Assisi, a story which has in modern times been generally dis-

missed as a mere monkish legend. According to this story, St. Francis, by meditating upon the Saviour's death, produced in his own hands and feet the marks, or *stigmata*, as they are called, corresponding to those which were produced upon the Saviour by the nails on the cross. Of course, it is not possible for us to say whether the historical evidence is sufficient to prove that this actually took place; but the physiology and psychology of our time pronounce the story to be by no means an impossibility. In fact, within the last few years, a case of veritable stigmatization took place in Belgium. A peasant-girl of extremely devout temperament abandoned herself to a morbidly excessive meditation like that of St. Francis, and with a like result. The result was, of course, blazoned abroad in the popular mind as a miracle, and attracted so much attention that a commission was appointed by the Royal Academy of Medicine in Brussels, who went out and enquired into the facts. They reported that the stigmatization was perfectly genuine, although, of course, they accounted for it without assuming any preternatural agency.

In further illustration of this it is scarcely necessary to remind you of the general fact, which has always been well known, that bodily health is very powerfully influenced by the mental condition. As far, indeed, as calm intellectual work is concerned, it may be questioned whether, even when it is very severe, it produces the bodily effects that have been sometimes ascribed to it. In most cases where injurious effects upon the body are ascribed to excessive intellectual work, it will be found that the intellectual work has been accompanied with excessive emotional worry, or with other circumstances unfavourable to health, and that these accompaniments, rather than the quiet intellectual assertion, are the real cause of the bodily injury. There can be no doubt, however, of the fact that mental worry does produce the most disastrous effects upon bodily health. It affects, first of all, of course, the nervous system; but through the nervous it is apt to injure also other organs of the body. Thus, for example, the digestion is very seriously affected by this cause, so that even chronic dyspepsia results from a continued emotional strain.

It may be said, then, to be an established fact that morbid action is capable of being produced in the tissues of the body by the state of the mind. But if disease may be produced by mental causes, may not the same causes be employed for curative purposes? This will undoubtedly be admitted to be the most important practical aspect of the subject for medical students. Now, here it may be said that the curative influence of the mind is undoubted; but at the same time we must here, again, be on our guard against attempting too sweeping a generalization; we must be content with particular facts and a few limited laws. For instance, we know it to be a fact, and an exceedingly important fact, that cheerful moods of mind tend to preserve a healthy condition of body, and thus also to assist any curative agencies that may be employed as remedies for disease. The old proverb, "Laugh and grow fat," indicates that even popular intelligence was perfectly aware of the genial influence that a cheerful condition of mind exercises upon the bodily condition. This genial influence is manifested to us in everyday life. For instance, you may find yourself at times in a morbid condition of body, and a consequent morbid condition of mind. You may be sitting in solitude reflecting on your gloomy state, feeling the deepest despair with regard to your own prospects, and, perhaps, with regard to the prospects of the world in general. But in the midst of your morbid gloom a friend comes in with a bright smile on his face and some pleasant words on his tongue. He draws you into an agreeable conversation, and in the course of a few minutes you have forgotten the trouble from which you were suffering,—your mind is, in fact, withdrawn to a different subject altogether.

It appears, therefore, that the influence of attention, by being directed to one subject and withdrawn from another, may produce important effects upon the bodily condition. I have just indicated how you may neutralize a painful feeling by the attention being withdrawn from the subject. Now, there are some cases in which complete anæsthesia may thus be produced; that is to say, the attention may be so completely withdrawn from a painful impression as to render all conscious feeling of

the impresson impossible. This has been frequently asserted to happen in the case of soldiers who, in the excitement of a battle-charge, have received a mortal wound and gone on fighting without any sensation of suffering, until they have dropped down exhausted from the wound. Now, in the same way, if the attention is directed to any organ we can intensify the action which is set up in that organ, and thus there seems to be ground for the common belief that the effect of medical treatment in many cases depends upon the faith of the patient in its virtue. The patient adopts some remedy with the full expectation that a cure will be effected by its means, and it seems evident that this expectation on the part of the patient assists the action of the remedy. Consequently it is, I believe, well enough known in medical practice, that practitioners occasionally administer drugs of a perfectly innocuous, but perfectly inoperative character. They find that some patients will not be satisfied unless some remedy is administered. Without the remedy a patient of this class would probably be left in a disturbed and anxious condition of mind. But when he believes that he has received a remedy, he becomes perfectly contented, and the remedy produces its effect, not by any physical agency, but by the influence of the patient's mind. There seems to be little doubt that many of the so-called faith-cures are actually cures, cures that have been actually wrought by the faith of the persons themselves; and wherever these cures have been genuine, it is by no means impossible to explain them on ordinary psychological and physiological principles.

It is upon this influence of the mind on the body that the use of hypnotism in modern medical practice has been founded, for hypnotism simply intensifies the power which the mind is capable of exercising over the body. The operator who hypnotises a patient can suggest an idea to the patient's mind which will become perfectly over-mastering, will absorb his whole attention in the direction indicated, and produce the most perfect conviction. Consequently, if the mental condition of a patient can in its ordinary state exercise a curative effect, that effect can always be heightened if the patient is capable of being thrown

into the hypnotic state. It has long been known, for example, that complete anæsthesia may be produced by hypnotism, and the anæsthesia seems to be an effect of that influence of attention by which, as already pointed out, a man may be rendered wholly unconscious of an impression upon some sensitive organ by his attention being completely taken up with something else at the time. In the early part of this century hypnotism, or, as it was then called, animal magnetism, was very often used as an anæsthetic agent for the performance of surgical operations; and when chloroform was first discovered, it was announced as superseding animal magnetism in medical practice. Hypnotism presents some phenomena that are very perplexing, and are still far from having received any satisfactory explanation; but in scientific theory, and, still more, in professional practice, it is advisable to keep to the safe path of those sober practitioners who disclaim all pretence of calling into operation any occult force of nature, and trust to the agency of those familiar psychological laws which govern the suggestion of ideas to the patient's mind.

In these remarks on the place of psychology in medicine I have been obliged, by the limits of a single address, to confine myself to a few general principles, and have therefore been unable to give any adequate idea of the interest which gathers round the subject when the inquirer descends from the comparatively cold and colourless heights of lifeless generality to the warm and picturesque region of living fact. But there is one interest which the subject creates, and which ought to be of peculiar value to the student of medical science and art. For the psychological relations of his professional work raise it to a position among the noblest occupations in which the energy of man can be expended. A true physiological psychology forces us to a peculiar conception of the human organism. The idea of mere organization is found to be inadequate to explain the nature of man. The structure of the mere animal, like that of the plant, may be sufficiently described in terms of organization; in other words, the structure is one in which the parts are essentially organs—that is, instruments subservient to the uses of the

whole. But man is something more than a simple organism ; in him, while the different bodily organs are adapted to the purposes of the whole organism which they form, that organism is itself reduced to the position of a mere organ,—an instrument fitted for carrying out the purposes of a mind. Probably when anatomy and physiology have attained a completeness which they are far from claiming as yet, they may be able to show that every tissue of the human body is differentiated in a peculiar way from the corresponding tissues of other animals by the fact that it has to subserve the uses, not of a purely animal existence, but of human intelligence. And thus the profession of the medical practitioner is invested with an inspiring sacredness, when it is viewed as seeking to preserve, in the highest state of efficiency, that marvellous instrumentality which has been provided by the Maker of all for working out the vocation of intelligent moral beings.

CASE OF ARTERIO-SCLEROSIS.*

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On the 24th of April last I was called at 1:30 A.M. to see Mr. A. B., a wholesale merchant of this city, who was taken suddenly ill. When I reached his house, fifteen or twenty minutes later, he was dead, and I received the following history. He had attended to business as usual that day, but feeling some indefinite pains in his chest, had called upon a physician on the way home, who prescribed a nerve tonic, not noticing anything serious in the superficial examination made at the time. The same evening he had enjoyed more than usual the company of friends and relatives, retiring in apparent good health at 1 A.M. Some twenty-five minutes afterward his brother, in the next room, was attracted by a peculiar noise, and on entering found a dying man. Breathing ceased within two or three minutes from the time he was thus discovered. A month and a half before this occurred he was laid up with what was called "grippe" while

* Read before the Medico-Chirurgical Society of Montreal.

visiting London, Ont. He never recovered his usual spirits after this attack, but told his wife frequently that he felt as if death were impending. His temper became irritable, and marked loss in weight was noticeable, all after the sickness mentioned. His depressed state of mind was not seriously regarded, as his disposition naturally was to exaggerate any illness he might have. Notwithstanding his wife's persuasion, he refused to consult a physician until the day he died. With the exception of two or three days sickness in January last, from which he fully recovered, his record of health seemed remarkably good for many years past. No specific history could be elicited, but about ten years ago he was said to have used alcohol excessively for a time, and was a heavy smoker of "strong" cigars. The chronic illness of a brother, to whom he was attached, who had frequent attacks of hemorrhage during the past thirteen or fourteen years, gave him great anxiety at times. This, in addition to business cares and worries to which he had been subjected more or less, were the only factors which could be made out as bearing on the case. He was a man of powerful build, medium height, and 40 years old. In closely questioning his wife, she said she had sometimes noticed a dark red discoloration of his ears, finger-nails, and back of neck, but it always passed off.

Report of Autopsy made by Dr. Finley twelve hours after death.—"Body well nourished and muscular. Rigor mortis well marked. A considerable amount of yellow fat in subcutaneous tissues and omentum. The fat is increased to a moderate extent on the surface of the heart. The organ is of normal size. The right side contains a considerable amount of dark-coloured fluid blood; the left a small quantity only. A small, dense fibroid patch is present on the ventricular septum, just below the aortic valves. This patch is irregular in outline, about half an inch in diameter, and extends irregularly into the wall of the septum to about half its depth. The mitral valve presents slight fibroid thickening on its auricular aspect, and there are a couple of small yellow plaques on the anterior cusp. The orifice of the left coronary artery is slightly narrowed, and on dissection both

coronary arteries are thickened and their lumens narrowed by numerous yellow plaques throughout their whole extent. The branch running in the anterior inter-ventricular groove is almost obliterated near its origin and just below the fibroid patch already referred to. The arch and descending aorta present a number of small, yellow, raised plaques, and these extend into the great branches of the arch and to the iliac arteries. The weight of the heart is 260 grammes. The pleural cavity is obliterated by organized adhesions, which are readily broken down. Both lungs are hyperæmic and œdematous. The abdominal organs are normal. The brain was not examined. Microscopically, the fibroid patch in the heart is mostly composed of a granular-looking, structureless tissue, with a small quantity of fibrous tissue, but no small round cells. The arterioles of the liver and kidney are normal. The renal artery showed distinct endarteritis."

Atheroma, arterio-sclerosis, or endarteritis deformans was first conceived as an independent affection by Messrs. Gull and Sutton. Atheroma, a term meaning *pap* or *pulp*, is described as a variety of fatty degeneration affecting especially the large arteries and valves of the heart. The disease is important, as leading to certain grave accidents and lesions pertaining to the parts affected. It consists primarily of a deposit beneath the lining membrane of the arteries, or the endocardium investing the valves of the heart, of a substance which presents a yellowish or whitish colour, and is of a cheesy consistence. Microscopically it is composed of fatty granules, with crystals of cholesterin in abundance, and certain earthy ingredients (*Flint*). The disease presents three tolerably well defined stages (*Little*). (*a*) In the first stage we notice, when the vessel is slit open, greyish patches by which the membrane is irregularly thickened; these patches seem to lie on the surface of the membrane, but this is deceptive,—the endothelium lies between them and the blood-stream, and is, at least at the beginning of the morbid process, unaffected. The material of which the patches are formed is really situated between the tunica interna and tunica media; it is semi-cartilaginous in consistence, and is formed by an abnormally rapid multiplication of the deeper cells of the interna, the

new growth pushing up this tunic with its superimposed endothelium and so causing a bulging into the interior of the vessel. The process is of the nature of an inflammatory change ; that is, it consists in the proliferation of cellular elements in consequence of some influence which has excited them to unnatural growth. (b) In the second stage, the cellular elements of which the new growth is composed undergo a process of fatty degeneration ; and in consequence it becomes yellowish in colour and pasty in consistence ; this pasty appearance caused the name atheroma to be originally given to the disease. It not unfrequently happens that the whole of the internal coat with its endothelium is involved in the softening and gives way under pressure of the blood, leaving an excavation, the so-called atheromatous ulcer, the floor of which is formed by the media and adventitia. (c) In other instances the pasty mass, instead of being washed away, becomes the seat of calcific deposit ; this being the so-called third stage of the process. The appearance of a vessel in which atheromatous disease has reached this stage is very striking ; plaques, which present to the naked eye the appearance of bone, but do not show its minute structure, are observed at intervals in the walls of the vessel, and their comparatively sharp spiculae project into its interior ; in the aorta it is not uncommon to find such plates an inch long and half an inch broad, and in the smaller arteries the calcific deposit sometimes forms a ring round the vessel. In the latter the calcareous particles appear to be deposited in the patch while it is still firm, so that the second stage of the process is wanting.

Some authors have divided cases of arterio-sclerosis into nodular, senile and diffuse forms. The macroscopic appearances of the nodular variety are quite characteristic. The aorta presents in the early stages, from the ring to bifurcation, numerous flat projections yellowish or yellowish-white in colour, hemispherical in outline, and situated particularly about the orifices of the branches. In the early stage these patches are scattered, and do not involve the entire intima. In more advanced grades the patches undergo atheromatous changes. The material constituting the patch softens and breaks up into granular material

consisting of molecular debris. Here the primary alteration consists in a local infiltration in the media and adventitia, chiefly about the vasa vasorum, the affection being really a mesarteritis and a periarteritis. These changes lead to weakening of the wall in the affected area, at which spot the proliferative changes commence in the intima, particularly in the subendothelial structures, with gradual thickening and the formation of an atheromatous patch of nodular arterio-sclerosis. The researches of Thoma show that this is really a compensatory process, and that before its degeneration the nodular patch, which post-mortem projects beyond the lumen, during life fills up and obliterates what would otherwise be a depression of the wall in consequence of the weakening of the media. This condition is one which may lead to dilatation or aneurism in the early stage, before the weakened spot is thickened by the internal changes. In the second of this division, viz., *senile arterio-sclerosis*, the larger arteries are dilated and tortuous, the walls thin but stiff, and often converted into rigid tubes. The subendothelial tissue undergoes degeneration and in spots breaks down, forming the atheromatous abscesses. The greater portion of the intima may be occupied by rough calcareous plates. The heart may not be enlarged. In the third form, viz., *diffuse arterio-sclerosis*, the process is widespread in the aorta and branches, and may be associated with the nodular form. The subjects of this variety are usually middle-aged men, say 40 to 45 years, but it may occur early. The affection is very prevalent among negroes. It is met with in strongly-built, muscular men, and they rarely present on the autopsy-table signs of general œdema, or if this exists, it has come on during the last few days of life. In this group the heart shows the most important changes, the weight being increased. Fibrous myocarditis is often present, particularly when the coronary arteries are involved.

The cause of this disease is now generally conceded to be over-strain of the vessels. The onset of arterio-sclerosis depends (*Osler*), in the first place, upon the quality of arterial tissue which the individual has inherited; and, secondly, upon the wear and tear to which he has subjected this tissue. That the former

is the more important is shown in cases where the disease occurs in early life, where none of the recognized causes have existed. For example, a man of about 30 years may have arteries of 60 years, and a man of 40 years may have arteries as much degenerated as they should be at 80 years; and this was found in the case which I bring before your attention to-night.

Entire families sometimes show this tendency to early arteriosclerosis, a tendency which cannot be explained in any other way than that in the make-up of the machine bad material was used for the tubing. More commonly this disease results from the bad use of good vessels, and among the causes of this condition are the following:—

1. Chronic intoxications.
2. Over-eating
3. Over-work of the muscles.
4. Renal disease.
5. A cachectic state of the system or some cause that alters the constitution of the blood and weakens the heart's action, such as prostrating illness and the mental conditions of anxiety and grief.

The dangers to which atheromatous arteries expose the person in whom they exist are varied. The stream of blood is retarded by the projection of the new growth into the vessel, and still more by the destruction of the elasticity of its coats; and hence ensues a failure in the nutrition of the organ which depends for its supply on the diseased vessel; this is said to be a cause of cerebral softening. When the paste-like mass is washed away, it sometimes happens that the blood insinuates itself between the coats of the vessel, producing a dissecting aneurism; or the portion of the vessel which has been marked by the removal of the internal coat yields to the pressure of the current and a sacculated aneurism is originated; sometimes the diseased vessel bursts. Cerebral vessels, probably on account of the thinness of their walls, are specially liable to rupture when they are the seat of atheromatous changes; and occasionally a diseased coronary artery has given way, filling the pericardium with blood. Arteries have been completely occluded by fibrin deposited on the

spiculated edges of calcareous plates, causing senile gangrene; embolic plugging of distant vessels at times results from the detachment of such fibrinous clots and the washing away of atheromatous debris. Rigidity of the larger arteries from this disease is a frequent cause of hypertrophy of the left ventricle, on which increased work is imposed owing to loss of elasticity in the vessels.

Osler says that in this disease many patients never come under observation during life, but are seen for the first time on the post-mortem table, having died suddenly from blocking of a coronary artery, cerebral hemorrhage, or rupture of an aneurism. Among important symptoms of arterio-sclerosis are the following:

Hypertrophy of Heart.—In consequence of the peripheral resistance and increased work the left ventricle increases in size. The chamber may be little, if at all, dilated. The signs pathognomonic of arterio-sclerosis are: increased arterial tension, a palpable thickening of the arteries, hypertrophy of left ventricle and accentuation of the aortic second sound. For years the patient may maintain good health, there may be no renal signs, or perhaps transient albuminuria. The subsequent history will depend on the accidents which are so liable to happen, and may be cardiac, cerebral, renal, etc.

Increased arterial tension has been mentioned as an important sign. It may be difficult to estimate how much of the hardness and firmness is due to the tension of the blood within the vessel and how much to the thickening of the wall. If, for example, when the radial is compressed with the index finger the vessel can be felt pulsating beyond the point of compression, its walls are sclerosed—(*Osler*).

At the heart, the involvement of the coronary arteries may lead to some of the symptoms already referred to, viz., thrombosis with sudden death, fibroid degeneration, aneurism of the heart, rupture, and angina pectoris. Angina is almost always associated with arterio-sclerosis. Dilatation ultimately following hypertrophy may give us dyspnoea, scanty urine, and serous effusions. The existence of a loud blowing murmur at the apex may lead the physician erroneously to suppose the existing dis-

tress is due to chronic valvular disease, if he is seeing the patient for the first time. The *cerebral symptoms* are important and varied. Transient hemiplegia, monoplegia, or aphasia may occur in advanced arterio-sclerosis. Recovery may be perfect. It is not clearly known upon what these attacks depend. *Renal symptoms* are found in many cases. It is difficult to decide clinically whether the arterial or the renal disease has been primary. *Respiratory symptoms* are often found, particularly bronchitis.

As to the treatment of this disease it is mainly preventive, in avoiding those influences which act as causes of the disease, viz., indulgence in alcoholic beverages to the extent of bringing about a gouty state of the blood; excessive muscular efforts, particularly in constrained positions; postures which involve the long-continued contraction of muscles, and, as far as the brain and heart are concerned, all those states which favour over fullness of their respective arteries,—*in the brain*, excessive mental application, deficient sleep, prolonged periods of sexual excitement (*Little*), grief, or prolonged anxiety; *in the heart*, efforts which involve holding the breath, causing distension of the right cavities and preventing free return of blood from their walls. This is what causes the life of the pearl diver to be a precarious and short one. Some of these men die from the effects of disturbed blood pressure in a few months, while deafness and incipient paralysis are common features. Could we prevent syphilis and the abuse of alcohol, could we ensure everybody against excessive bodily and mental strain, we should go far to obviate the necessity for trying to treat these arterial changes and their allies, concomitants and results, at least until a late period of life. Plumbism is, according to English writers, another cause of a preventable kind. The chief means of prevention is a strictly hygienic manner of life. Although there is reason to believe that arterio-sclerosis may be a matter of inheritance, yet the tendency can be effectually combated or delayed by temperance and moderation in all things—food and drink, work and play—and by the cultivation of an equable temper. The arteries which are the favourite seat of syphilitic changes are

those of the brain. As it is impossible to be sure whether a syphilitic arteritis has gone beyond the point up to which retrogression may take place under the use of pot. iod. and hydrag., the patient should be given the benefit of the doubt by full anti-syphilitic measures. Apart from syphilis, the treatment of this disease varies with the presence or absence of compensating cardiac hypertrophy. If this be present, we should maintain it by careful regulation of the diet and exercise. The nutrition of the heart muscle is assisted by simple, nutritious, easily digested food; pure air, sufficient sleep, properly graduated exercise, bathing, and careful clothing of the body, it being remembered that the kidneys are seldom perfectly sound in these cases. The retention of excrementitious products being believed to cause arterial tension, careful attention to kidneys and bowels is imperative. In general atheroma, over-exertion or sudden exertion must be avoided. In many cases there are no certain means of knowing the exact condition of the cerebral or coronary vessels, for these may be the seat of advanced disease while the radials and temporals may appear healthy; while, on the other hand, autopsies have shown the reverse condition may exist. It is notorious that individuals whose peripheral arteries are calcareous to the last degree not infrequently enjoy a life of surprising length and comfort. Drug treatment is always of secondary importance, except in syphilis, when pot. iod. is given; improvement or iodism being the indications of dosage. No drug can materially influence endarteritis other than specific origin. Bartholow and some others claim that salts of gold control the formation and cause absorption of connective tissue growth, and hence are indicated in this disease. It is given in the form of double chloride of gold and sodium, 1-20 to 1-40 gr. post cib. In persistently high arterial tension nitro-glycerine (m_i of 1 per cent. solution) is indicated. This is put up in tablet triturates for convenience and accuracy. The nitrates relax unstripped muscle fibre remarkably. Diuretics, diaphoretics and purgatives are useful when indicated.

If compensatory hypertrophy is failing, the treatment is quite different. Rest is imperative, except in obesity with fatty heart,

when Oertel's treatment carefully supervised will be applicable. Alcohol may be useful for impaired appetite and digestive power with the other many aids in this direction. If it be true that digitalis increases arterial tension, while strophanthus does not, the latter is to be preferred in this class of cases ; some authors maintain that this difference is, however, somewhat theoretical. If digitalis be useful, Balfour's suggestion to give it with an interval of twelve hours between each dose enables us to give the drug without the danger of accumulation.

Sleep is of the utmost importance, and morphia is one of the best hypnotics, apart from its usefulness in angina. In cases of great tension in muscular subjects, striking relief is afforded by abstraction of 15 to 20 ozs. of blood.

This serious disease, affecting as it does the seat of life itself, demands from a practitioner the exercise of the utmost skill and mature judgment which a careful, painstaking study of a given case enables him to apply. The elucidation of the many problems which arise in such cases has occupied the attention of the brightest intellects of the profession, and yet the insidious onset of the disease, giving no note of warning to the patient ; the impossibility of procuring, after the disease is recognized, precise and positive data regarding the condition of the internal organs primarily or secondarily affected ; the impossibility of judging with certainty in some cases as to whether death is imminent or remote ; and the utter unreliability of any known drug in simple arterio-sclerosis, leave much to be desired in the further exploration of what has long been a *terra incognita*.

AN INQUIRY INTO THE CAUSATION OF LOCAL MOTOR PARALYSIS AFTER PARTIAL POISONING BY CHARCOAL VAPOUR.

By A. BRÜERE, M.D., EDIN.

(Read before the *Medico-Chirurgical Society of Montreal*.)

Instances of local motor paralysis occurring after partial poisoning by charcoal vapour have been published by Schachmann, Comby, Leudet, Rendu, and others.* Among the forms of local paralysis that have been observed I may mention paralysis of the portio dura of the 7th nerve, and paralysis of the musculo-spiral. This motor paralysis may or may not be absolute. It is associated, though not invariably, with impairment of sensation, and with a more or less rapid wasting of the paralysed muscles, with loss of power to respond to the faradic stimulus.

The occurrence of local paralysis on the second or third day after partial poisoning by charcoal fumes has led observers to ascribe the paralysis to the action of a poison circulating in the blood. If the paralysis be referable to the presence in the blood of a toxic substance derived from charcoal vapour, what is that substance?

The now classical experiments of Félix Leblanc, published in 1842,† have established the fact that carbonic oxide is the toxic agent in air vitiated by charcoal vapour, and that carbon dioxide and the hydrocarbons present play only a very secondary part in the causation of the toxic effects observed in cases of poisoning by charcoal vapour. Leblanc has shown experimentally that air containing from one to two per cent. of methane and ethylene may be breathed a long time without causing obvious toxic symptoms, and that the amount of those gases and of carbon dioxide that a dog can tolerate without dying is much larger than the amount of those gases present in air rendered irrespirable by the combustion of charcoal.

Leblanc's observations have been confirmed by Cl. Bernard, Vogel, Biefel, Poleck and others, all agreeing in considering

* *France Médicale*, Paris, vol. ii, pp. 893-897, 1886.

p. 377, 1882.

Bull. Acad. de Méd., Paris, s. 2, v. 12, 1883, pp. 1073-1077.

L'Union Médicale, s. 3, v. 33, 1882, p. 386, &c.

† *Annales de Chimie et de Physique*, s. 3, v. 5, 1842, p. 223 et seq.

carbonic oxide *the* poisonous agent, which by its action on the economy causes the poisonous symptoms observed in man and animals placed in air vitiated by charcoal fumes.

Now, the deleterious effects of carbonic oxide are due to its special action on the blood. We are all aware that this gas displaces the oxygen of oxyhæmoglobin volume for volume, and combines with the hæmoglobin to form a compound far more stable than oxyhæmoglobin; for the compound is capable of resisting the action of reducing agents and, to a certain extent, that of putrefaction. The presence of carbonic oxide, in the blood of animals poisoned by the gas, can always be ascertained on spectroscopic analysis, the absorption spectrum of carbonic oxide-hæmoglobin being characterized by two bands between Fraunhofer's lines D and E, very like those of oxyhæmoglobin, but placed closer together and nearer the line E. These bands are not affected by reducing agents.

After partial poisoning by carbonic oxide the gas is eliminated from the system. Some hold, with Gréhant, that it is eliminated unchanged. Others maintain, with Cheneau and Pokrowsky, that the carbonic oxide-hæmoglobin becomes dissociated into carbonic oxide and hæmoglobin, and that the carbonic oxide links itself to an additional atom of oxygen and is eliminated as carbon dioxide. Whatever be the form in which the carbonic oxide is got rid of, the fact remains that its compound with hæmoglobin entirely disappears, after a time, from the blood of animals partially poisoned by the gas, examination of their blood with the spectroscope revealing not a trace of its presence.

In view of the occurrence of paralytic symptoms after partial poisoning by carbonic oxide, and of the probability of the carbonic oxide-hæmoglobin remaining undissociated in the blood long enough to cause those symptoms, I thought it of interest to determine experimentally the length of time that the carbonic oxide-hæmoglobin might persist unchanged in the blood of living animals. This idea had already occurred to Gréhant, and in a paper communicated to the Académie des Sciences of Paris in 1873, he expressed the view that the elimination of carbonic oxide from the blood of animals poisoned by the gas was effected in a comparatively short time. By employing a method of his own for the quantitative esti-

mation of carbonic oxide combined with hæmoglobin, he claimed to have established that almost all the carbonic oxide present in the blood after poisoning by the gas may, in the case of dogs, be eliminated in about four days.

I was led to doubt Gréhant's assertion by the accidental discovery of carbonic oxide-hæmoglobin in the blood of a living dog, ten hours after the inhalation of carbonic oxide. It was therefore worth one's while to investigate the subject more fully.

The method of experiment adopted consisted in causing animals to breathe a mixture of pure carbonic oxide and air, the volume of the former gas being so small as to cause only a very gradual intoxication. The animals were observed and rescued as soon as symptoms of carbonic oxide poisoning were evinced. Immediately after being rescued, their blood was examined with the spectroscope for the absorption bands of carbonic oxide-hæmoglobin. The animals were then kept under observation, and their blood examined with the spectroscope from time to time.

The apparatus used for the administration of the mixture of carbonic oxide and air is as follows:—

A gasometer into which a known volume of pure carbonic oxide, prepared by Jungfleisch's method, is introduced. After noting the temperature of the room and the atmospheric pressure, air is introduced and its volume measured, one of the limbs supporting the bell of the gasometer being graduated. The mixture is allowed to stand for twenty-four hours that diffusion of the gases may be thorough, and before beginning the experiment the volume of the gaseous mixture in the gasometer is read off at the then temperature and pressure. It was necessary to note any difference in the temperature and pressure, in order to be able to account for any change in the volume of the gaseous mixture which might otherwise be put down to absorption of the gases by water in the gasometer. Although carbonic oxide is very sparingly soluble in water, I thought it advisable to have a layer of olive oil on the surface of the water in the gasometer in order to prevent its absorption. The exit pipe of the gasometer is connected with the top of a bell jar, by means of rubber tubing, and from the centre of the stand on which the jar rests a rubber tube leads

to a wash-bottle. After making sure that there is no carbonic oxide in the blood of the rabbit or guinea-pig to be experimented on, the animal is placed under the bell-jar, the ground edge of which has been previously well greased. The gaseous mixture in the gasometer is then turned on, its rapidity of outflow being indicated by the rate at which it bubbles through the water in the wash bottle. Its rate of outflow is regulated by removing or adding to the weights placed on the top of the bell of the gasometer. It was essential that there should be a constant stream of the gaseous mixture through the bell-jar in which the animal was placed, in order to prevent any undue accumulation of the carbon dioxide exhaled by the animal, which carbon dioxide, if it had accumulated, might have caused asphyxia before the small quantity of carbonic oxide present in the gaseous mixture had had time to affect the animal to any appreciable extent.

Fifteen experiments were performed to ascertain the length of time that carbonic oxide-hæmoglobin persisted in the blood of living animals poisoned by carbonic oxide, eight on guinea-pigs and seven on rabbits, and the compound was found to persist for from thirty-five to seventy hours. Several hours after poisoning by carbonic oxide, I was able, by extracting the blood gases and analysing them over mercury, to separate and absorb by cuprous chloride measurable quantities of carbonic oxide. These results show that the elimination of carbonic oxide from the blood of animals partially poisoned by the gas is gradual, and is affected much more slowly than Gréhant has stated.

Now, since carbonic oxide-hæmoglobin has been detected in the blood of living animals several hours after the inhalation of carbonic oxide, may it not be that the forms of local paralysis observed after poisoning by charcoal vapour are due to the action of carbonic oxide either on nerve trunks or on their nuclei of origin, or on their peripheral terminations, or on the muscles themselves?

We know that dissociation of carbonic oxide-hæmoglobin does take place in the body, the only point which remains doubtful being whether the carbonic oxide leaves the body as such, or whether it combines with oxygen to form carbon dioxide. May it not be that dissociation of carbonic oxide-

hæmoglobin into carbonic oxide and hæmoglobin takes place in the systemic capillaries, and that the carbonic oxide set free diffuses through the capillary walls and exerts a special action on the tissues, and especially on muscle and nerve?

And if so, what is the result of that direct action of the poison on muscle and nerve? Does it merely impair their excitability, or does it induce some inflammatory process in them? We are aware that some poisonous gases exert a direct toxic action on muscle and nerve by which their excitability is impaired and eventually abolished. The experiments of Kaufmann and Rosenthal on the direct action of sulphuretted hydrogen on muscle, those of Castell with various gases on the excised heart of the frog, and my own experiments with phosphuretted hydrogen and hydrogen selenide on muscle and nerve, furnish some evidence of the direct toxic action of those gases. Has carbonic oxide any direct action on muscle and nerve? Claud Bernard must have thought of the possibility of its having a direct action on muscle and nerve, for after repeating some of Nysten's experiments with the gas, he placed nerve muscle preparations in a mixture of carbonic oxide and air contained in a bell-jar, and found that even after a stay of an hour in the gaseous mixture the nerves and muscles were still excitable. The proportion of carbonic oxide to air in that mixture had not been ascertained. The volume of carbonic oxide present might have been so small as to have no appreciable action on the muscles and nerves in an hour. I therefore thought it well to try the direct action of pure and undiluted carbonic oxide, or of a known volume of carbonic oxide mixed with a known volume of air. Nerve-muscle preparations were subjected to the action of the gas in jars standing over mercury, and their excitability was tested at regular intervals of time with single induction shocks. I found that even after a stay of three hours in the undiluted gas the muscles and nerves were still excitable. Frog's muscles kept for ten hours in a moist atmosphere containing .5 per cent. of carbonic oxide still responded to electrical stimulation.

It would therefore seem that carbonic oxide does not impair the excitability of muscle and nerve to any appreciable extent.

What, then, is the cause of the local paralysis induced by carbonic oxide? Are we to refer it to the direct action of the

poison on the nucleus of origin of the implicated nerve? There is abundant evidence of a general action of the poison on motor and other centres in the brain and cord. The symptoms of acute poisoning by carbonic oxide furnish a clear proof of such a general action. Can it be that most of the motor cells in the brain and cord recover in some minutes from the effects of the poison, with the exception of a comparatively few cells presiding over the muscles which remain paralysed? I am not prepared to admit any such direct and limited action of the poison resulting in the impairment of the excitability of motor cells, but as regards the possibility of the nuclei of motor nerves being involved, one should bear in mind the fact that after death by carbonic oxide the brain and cord have been found congested, their vessels being turgid with florid blood. Punctiform hemorrhages have been observed in such situations as the grey matter of the convolutions, the corpus striatum, and the medulla. I need hardly say that a hemorrhagic focus occurring either in the immediate neighbourhood of, or in the nucleus of a motor nerve would either impair or paralyse its function. The presence of cerebral hemorrhage would also account for those cases of well marked hemiplegia which sometimes occur after poisoning by carbon monoxide. The tendency of inflammatory changes to follow upon hemorrhagic effusions, however small, should also be borne in mind in this connection.

I am inclined, on the whole, to refer the local paralysis to neuritis of the nerves supplying the paralysed muscles. The more or less rapid loss on the part of the muscles of faradic excitability, the fact that sometimes there is tenderness along the course of the affected nerves, the occasional occurrence of trophic changes in the skin of the affected part, all point to peripheral neuritis. But the question arises, is it a toxic neuritis, or is it due to some other cause? We know that neuritis may be induced by certain poisons. For instance, the neuritis occurring during apparent convalescence from diphtheria, and after poisoning by certain organic and metallic poisons may be said to be of toxic origin. Does carbonic oxide induce a toxic neuritis?

Although I cannot but admit the possibility of that being the case, since neuritis occurs after poisoning by diffusible

compounds, such as alcohol and bisulphide of carbon, I am bound to say that, except in one instance, I have failed to induce neuritis experimentally by the repeated administration of carbonic oxide. The exceptional case I refer to was that of a dog which had had repeated inhalations of carbonic oxide, and which, after twenty-seven days, gave evidence of local neuritis, but even in this case it was doubtful whether the neuritis was a toxic neuritis or one due to traumatism. I may say that I have never been able to confirm that result.

I believe that most of the cases of local paralysis which follow upon poisoning by carbonic oxide are due, not to toxic neuritis, but to neuritis brought on by undue exposure to cold of the poisoned persons. I must, however, allow that the presence of carbonic oxide in the blood of such persons, by diminishing the amount of hæmoglobin available for conveying oxygen to the tissues, will tend to impair their vitality, and that a nerve, the vitality of which has been lowered, will be especially liable to inflammatory changes.

Reviews and Notices of Books.

A System of Practical Therapeutics. Edited by HOBART AMORY HARE, M.D., assisted by W. CHRYSTIE, M.D. Vol. II. Philadelphia: Lea Brothers. 1892.

The second volume of this already well known work opens with an extremely comprehensive article on Syphilis by R. W. Taylor, occupying 182 pages. The author strongly advocates postponing specific treatment until secondary symptoms appear, and urges not only the usual plea of doubt in diagnosis in the first stage, but also expresses his belief that early treatment with mercury is actually harmful. If this view is correct, it removes much responsibility from the practitioner in the treatment of the primary sore. The protoiodide is regarded as a useful remedy in the first few months, but inunction should form the back-bone of treatment.

Excellent articles on Scarlatina, Measles, Rôtheln and Chicken-pox, by J. Lewis Smith, follow.

In the treatment of Smallpox, by Wm. H. Welch, much atten-

tion is naturally devoted to prophylaxis. Compulsory vaccination is the only way to eradicate the scourge, and "as every unvaccinated person is liable to contract smallpox and disseminate the contagion among others, he should therefore be regarded in the light of a public enemy and dealt with accordingly. Surely it is not an unreasonable position to assume that no person through ignorance or prejudice should be allowed to contravene the public welfare." The Montreal epidemic of 1885 certainly proves that strong measures can be carried out in spite of the most prejudiced opposition. Lymph from a vaccine vesicle, or, failing this, a scab from a healthy infant, is preferred to animal lymph, as causing a milder eruption and in being more prompt in its action.

All the important measures in use at the present day in the treatment of Typhoid are discussed by F. P. Henry. Under the head of prophylaxis, an interesting account of the modes of infection is introduced. The remarkable statistics of Brand, by which over 1200 cases were treated with the cold bath with a mortality of one, are quoted, but, unfortunately, observers on this side of the Atlantic have as yet not attained such results. Antipyretics are regarded with favour, although but little mention is made of their depressing effects. Following Leibermeister, a dose of calomel in the early stage is considered beneficial, and to various intestinal antiseptics an important rôle is attributed.

An elaborate article on Yellow Fever, by Jerome Cochran, is much enhanced in value by including a formal expression of opinion by physicians of the Southern States and Havana.

Diphtheria and true Croup are included among the affections of the respiratory tract, and have been entrusted to Dr. J. C. Cameron, assisted by Dr. H. S. Birkett. Both diseases are regarded as due to the same virus, and thus necessarily requiring a similar general plan of treatment. Regarding the malady as a local one, with general manifestations and due to a specific bacillus, the treatment is directed against both. The main points are treated clearly, and without padding with unnecessary and obsolete therapeutic measures.

In the article on Cardiac Disease, by W. H. Thompson, there

is a decided tendency to enter into details of treatment for conditions which are more easily recognized by the pathologist than the clinician. The section on chronic heart disease is mostly occupied by a rambling discourse on symptomatology. In a work specially devoted to treatment we are surely not too exacting in demanding an explanation of the mode of action of digitalis. We are told that the drug is a "nervine," that its "beneficial effects are due to the cramp-like contraction which it induces in the heart," and that it can only be regarded as a "temporary makeshift." Its valuable action in increasing arterial tension is regarded as a disadvantage. Nitro-glycerin is highly spoken of as an adjuvant to digitalis, but no distinction is drawn in its use between such different affections as cases of cardiac hypertrophy with arterial sclerosis and cases of failing compensation in mitral disease. The quickened pulse of arterial sclerosis is regarded as indicative of subacute endocarditis and calls for aconite and corrosive sublimate. We heartily recommend the writer to peruse the works of such a physician as Balfour if he is ever called upon to review this section.

In pleasing contrast to the above is a scientific article on Angina Pectoris, based on physiological principles. We can well overlook the omission of minute details in treatment when such clear general principles are laid down.

Space prevents us from alluding to all the other articles. Dr. Blackader contributes a valuable and practical chapter on the affections of the mouth and salivary glands. Shattuck's remarks on arterial sclerosis and on diseases of the blood reach the high level which we expect from a professor in the great Harvard school.

In conclusion, we can only express our pleasure in the work as a whole. Stores of knowledge are collected in almost every chapter, and even the most ardent prescription-hunter will be satisfied by the numerous combinations presented.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, April 1st, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Bothriocephalus Latus.—DR. JOHNSTON exhibited for Dr. Sutherland a specimen of this variety of tapeworm. The patient who had passed it is a woman aged 23, a native of County Cavan, Ireland, and has lived in Canada since October, 1885. She is a servant, and has lived during that period with the same family, and, with the exception of the three summer months in 1890, always in Montreal. It is difficult to date the onset of her symptoms, which were voracious appetite, headache, vertigo and vomiting. Dr. Sutherland gave her a purgative and she passed the worm. The case is of interest on account of the extreme rarity of this variety of tapeworm in America. Dr. Leidy knew of no case indigenous in America, and all the cases he had seen were in immigrants. The worm is very common in Europe, especially Russia, Belgium, Switzerland and Ireland. This patient had in all probability brought the worm with her from Ireland six years ago. The cysticercus is found in the pike, perch, salmon and trout, but how it gets into these fish is uncertain, probably through some intermediate host, as a small shell-fish. Dr. Johnston gave a short account of the other varieties of tapeworm.

DR. F. W. CAMPBELL said he had lately seen a great many cases of worms, and he thought that many persons are affected and do not know it, and that the symptoms do not amount to anything until attention is drawn to them. The treatment is the same for all the varieties.

DR. MILLS said that all worms when passed should be burned and not carelessly thrown away, so as to prevent the lower animals becoming affected. Symptoms may range all the way from nothing to partial paralysis and lameness. He cited the case of a dog that was lame, and which, after a purgative, passed four worms and immediately recovered. He asked if pecan or areca

nut had been tried in human beings, for it has long been looked upon as the best remedy for tapeworm in the dog.

DR. PROUDFOOT said that kamala, 60 grains three times a day or inside of five hours, was very efficacious.

Intercranial Cyst.—DR. HINGSTON showed before the Society a young woman who had been brought to him suffering from intense pain in the head and down the side of the face, and was at the time screaming violently. She was in an ensanguine condition, pulse very feeble, and apparently dying. He sent her to the Hotel Dieu Hospital, and the next day she was put under chloroform and a horse-shoe-shaped incision was made on the right side of the head, about $2\frac{1}{2}$ inches above the ear; the flap was turned up and a piece of bone about the size of a 25 cent piece removed, without injuring the dura; this was then cut through, and in the cavity of the arachnoid he found a small cyst, like a limited serous effusion or limited arachnoiditis; on opening this, fluid of the consistency of olive oil, but not pus, escaped, the membrane collapsed, and pulsation was observed. The wound was closed with fine silk and union took place by first intention. She now has no pain, sleeps well, eats enormously, and has gained 20 lbs. in weight.

DR. SHEPHERD asked why the operation had been performed at that particular spot, if there was any history of injury, if there were any motor symptoms, and how such a condition could be distinguished from hysteria.

DR. LAFLEUR asked if the patient had been an epileptic.

The PRESIDENT asked if the fluid had been examined, and if an ophthalmoscopic examination had been made.

DR. HINGSTON, in reply, said that there had been no motor symptoms, and the reason he had chosen that particular spot was that the pain seemed to be a little more intense there than in other parts of the head. She was not an epileptic, but there was a history of an injury twelve months before, when she was struck on the affected side of the head by a falling ladder. He replied in the negative to both the questions asked by Dr. Buller.

DR. SHEPHERD exhibited the following specimens obtained from the dissecting-room:—

(1) *Fissured Sternum.* The fissure was of small size, and was situated about the centre of the meso sternum.

(2) *Fracture of the Scaphoid Bone of Foot.* This was taken from a male subject who had lost his great toe and the terminal phalanges of the two next, due, evidently, to a crushing injury. The portion of the scaphoid articulating with the external cuneiform was separated. It was much increased in size owing to the throwing out of new bone, and had a large surface articulating with the cuboid bone.

(3) *Fracture through the Laminæ of the 5th Lumbar Vertebra.* This was found in a male subject. The separation of the neural arch from the body of the 5th lumbar vertebra was complete, the arch being kept in place by the articulations with the first sacral vertebra. A false joint united the neural arch to the body, and there was no evidence of new bone having been thrown out. It was not a failure of union, as the separation was not in the line of the neuro-central suture. Dr. Shepherd could find no record of such a fracture in works on the subject.

(4) *A Displaced Abnormal Kidney with six Renal Arteries.* This specimen was found in the left side of a female subject. The kidney was an abnormal one with an anterior hilum; its lower end was situated near the commencement of the internal iliac artery, the hilum being opposite the bifurcation of the aorta. It received two arteries from the abdominal aorta, two from the common, and two from the internal iliac arteries; these vessels entered it on the internal border from the superior to lower end. One artery of large size, however, wound round beneath the kidney and entered its convex external border. This vessel came from the internal iliac, and was opposite the hilum. The veins were also multiple. The supra-renal capsule was in its normal position, and did not descend with the kidney, being separated from it by several inches. The right kidney, although normal in position, was supplied by three arteries. Dr. Shepherd remarked that multiple renal arteries occurred in his experience in about 10 per cent. of subjects, and were due to a persistence of the primitive condition, where a separate artery is supplied to the kidney opposite each vertebral segment. These anomalies

were of great importance to surgeons, and might give rise to serious trouble in extirpating the kidney. Dr. Shepherd related a case where he had met with these supernumerary vessels in operation on the living subject.

Five Laparotomies, with four Recoveries and one Death.—

DR. LAPHORN SMITH said: I have to report the following five cases in addition to those I have already reported to this Society, although the pleasure of doing so is marred by my having to acknowledge my second death:—

Mrs. S., aged 64, a patient of Dr. Aubrey of Côte St. Paul, came under my care on the 17th July, 1891, giving me the following history: Menstruation had commenced at 16, and had always been regular, though painful the first two days, and always profuse, lasting a week. She was married at 21, and has had only one child, who is now 42 years of age. Since the birth of her child menstruation has been almost painless until it stopped at the age of 46. Twenty-four years ago her left breast was removed for cancer by the late Dr. R. P. Howard, and there has been no recurrence of the disease. Three years ago she began to have trouble with her water, being unable to hold it, and six months before my seeing her she had noticed a lump growing in the abdomen. On bimanual examination I found a hard, oval tumour rising to the level of the umbilicus above and projecting into the pelvis below, and it had a nodule on either side of it the size and shape of ovaries. The abdominal wall was very thin, and the tumour was freely movable in the abdomen. On pushing up the cervix uteri motion was communicated to the tumour, and pressure on the tumour caused motion of the uterus. It presented the symptoms of a fibroid tumour in the fundus uteri, with portions of it in a cystic condition. Fearing that the tumour might be cancerous, the patient was very anxious for an operation. Accordingly, with the assistance of Drs. Perrigo and Springle, and in the presence of Drs. Aubrey and Mitchell, I performed abdominal section at Strong's Hospital. On opening the abdomen the tumour was found to be fibro-cystic, but there were a great many very tensely filled loculi, the larger ones of which I emptied. But it had no connection whatever with the uterus

or ovaries. It seemed to spring from the mesacery about the level of the second lumbar vertebra. On endeavouring to find a pedicle to tie I found that a coil of intestine was so intimately connected with it that it would have been impossible to have enucleated it down to the vertebra without tearing the peritoneum off the intestine. The tumour was behind the peritoneum, and in endeavouring to peel the latter off it I exposed the right ureter and right common iliac artery. As I was prepared for hysterotomy I had a *serre nœud* with me, so I passed the cord of it around the base of the tumour as far back as I could without catching the above-mentioned coil of intestine, and tightened it up and cut off the tumour. In freeing it from adhesions a good deal of oozing occurred, which required a great many silk ligatures to arrest, but finally the abdomen was cleaned dry and the *serre nœud* was brought out with its very short stump, which was not more than three-quarters of an inch long from the spinal column. In fact it would be more correct to say that the very slack abdominal walls were brought under the *écraseur* so as to embrace the stump, and two pins were passed through the stump above the *serre nœud* to prevent it from slipping off. The abdomen was closed with silkworm gut and no drainage tube was used, the wound being dressed with dry boracic acid and absorbent cotton. The *écraseur* came away about the twelfth day with a small slough, the temperature never going above 100°. About the fourth day a clear, slightly yellow, watery discharge was noticed welling up from the inferior angle of the wound in considerable quantity. It had no odour, and I was uncertain of its nature, although I thought it might be lymph coming from the thoracic duct, which I feared I had included in one of my ligatures which had been placed very near the duct. On the other hand, it might have been urine escaping from a possible wound of the bladder. I therefore introduced a glass catheter into the bladder and left it for some hours without at all diminishing the flow from the wound. In order to be certain about it, I placed the patient on her face for a few hours and collected a few ounces of the fluid, which I handed to Dr. Bruère without telling him where it came from. He next day handed me the

result of a careful chemical analysis clearly proving that it was urine, and convincing me that it was due to a wound of the ureter. The patient made an excellent recovery for her age, being able to walk about outside in two months and frequently driving into town since. I devised a great many contrivances for catching the urine and conveying it into a rubber bag attached to her leg, but none of them was satisfactory ; but after a few months the fistula gradually ceased to flow, and now there is only a slight moisture.

Mrs. W., æt. 36, came under my care in January, 1891, for a very close stricture of the rectum, which would hardly admit a No. 8 catheter. Her abdomen was enormously distended. She had no previous history of syphilis, nor did the stricture present the appearance of being malignant. It seemed rather to have been due to simple ulcer of the rectum, which had been repaired by cicatricial retracting tissue. She called my attention to a lump in the abdomen extending across from one hypochondriac region to the other, and extending downwards and backwards in the direction of the descending colon. I took her into my ward at the Women's Hospital and called a consultation of the staff. In the opinion of the majority, myself among the number, this lump was thought to be an accumulation of fæces due to the impossibility which existed of anything but liquid motions passing so small an opening as her rectum. I divided the stricture backwards towards the sacrum in the middle line, and opened it up to two inches in diameter. She took a powder containing 40 grains of compound jalap and 10 grains of calomel with the result that she passed a great many very copious stools with great relief of the distension and partial disappearance of the tumour. The purgation was repeated a few times with still further benefit, and she was discharged feeling remarkably well. She remained so for about a year, when, having neglected to pass the bougie, her stricture returned and the abdomen filled up as before. I again divided the stricture and cleared out the bowels, but the abdomen remained distended with ascitic fluid, and the lump between the umbilicus and the ensiform cartilage could now be felt very distinctly. She was very anxious to have

this fluid drawn off, but declined any serious operation for the present. I therefore decided to make an incision to let out the water, and at the same time to settle the diagnosis of the tumour, whether it was faecal accumulation or malignant disease of the intestine. Accordingly, assisted by Dr. England, and in the presence of my class, on the 20th of February I made a two-inch incision between the ensiform cartilage and the umbilicus, allowing a quantity of straw-coloured serum to escape. On introducing my finger and raising the omentum a hard, slightly nodular tumour could be felt occupying the situation of the head of the pancreas, which was enlarged to the size of an orange. As I had not been able to obtain the patient's consent to removal of the tumor at present, I replaced the omentum and sewed up the incision with silkworm gut, obtaining union by first intention and without the temperature ever rising above $99\frac{1}{4}^{\circ}$ during the next two weeks, when she was discharged. In fact she was sitting up next day. It is my intention, as soon as she consents, to undertake this rather formidable operation of removing the tumour, as it is evidently beginning to endanger her life very seriously.

Miss X. came under my care at the Woman's Hospital on the 27th February, 1892, with the following history. She had always been healthy, with the exception of having lost the use of one eye and ear after scarlet fever. She was seduced by a commercial traveller, and was delivered at term on the 29th of January. The perineum was very unyielding, and a laceration of both it and the cervix occurred, the former being torn through into the rectum, which latter, however, was promptly sewed up by Mr. Hackett, the house surgeon. On the 30th her evening temperature was a little over 99° , on the 31st it rose to 103° , and next day to 104° . From that time till the 24th Feb. her temperature oscillated between 104° at night and $97\frac{1}{2}^{\circ}$ in the morning. As soon as the temperature began to rise Dr. Reddy ordered the stitches to be removed from the perineum, which was found to be suppurating, and every antiseptic measure was employed, such as bichloride intra-uterine injections, etc. She was transferred to my care on the 27th Feb., when, on examina-

tion, I found the uterus and appendages all glued together in a mass of peritonitic exudation as though they had been set in plaster-of-Paris, the roof of the vagina feeling like a solid board. In Douglas's cul-de-sac could be felt a prominent oval body extremely sensitive to touch, which was thought to be the ovary. I diagnosed pus tubes leaking into the peritoneal cavity and strongly advised abdominal section, in which my colleagues concurred. Accordingly, as soon as the consent of the patient and her friends was obtained, which required eight or ten days, during which her condition became more and more alarming, I opened the abdomen, with the assistance of Dr. England, on the 5th of March, in the presence of twenty members of my class and visitors. After cutting through the abdominal wall I was unable to get into the peritoneal cavity owing to omental peritoneum being glued to the parietal peritoneum by solid cheesy exudation. On extending my incision a little lower down I came upon an abscess cavity containing half an ounce of pus apparently between the omentum and the parietal peritoneum, which had been walled off by exudation. After cleaning this out with weak bichloride solution I tried to get into the pelvis by that road, but could make no headway. I then tried to enter by the upper end of my incision, which I managed to do. By pushing aside the omentum above the point where it was adherent half-way up to the umbilicus, I was able to introduce my finger into the abdomen. I then dug away for a quarter of an hour in Douglas cul-de-sac, and succeeded in extracting the two ovaries, which I brought to the surface. The patient had given her consent to the operation on condition that I would spare her ovaries if they were not seriously diseased, and as they appeared healthy I returned them. I then made a search for the tubes, but it was impossible to distinguish them from the solid lymph in which they were imbedded. At one time I dug out with great difficulty what seemed to be one of them, and tied and removed it, but no trace of the tube could be found in it. On the left side of the uterus I could feel about a half an inch of the tube. On the right side I could not distinguish it from the solid material in which the uterus was imbedded. Even the space between the

uterus and bladder was filled in with this lymph cement so firmly that I could plough a furrow with my finger tip between them, but could not tear this material off the uterus. By this time I felt that to continue longer would be endangering the patient too much, so I washed out the abdomen with several gallons of hot water, introduced a good sized drainage tube, and closed the wound with silkworm gut. The patient vomited a good deal, but reacted nicely, and on the fourth day the drainage tube was removed, by which time the bloody exudation had changed to lymph. On removing the tube I had to rotate it, when something gave way, and on examining the tube I found a tiny segment of intestine in one of the holes. The day following my attention was called to the dressing, which had been kept for me, and which I found to be saturated with bile coming from a small intestinal fistula. This, however, gradually diminished, and at the end of a week had closed entirely. The temperature did not fall to normal until the fifth day, since which it has never gone above 100°, and it has reached that only once or twice. This is now the 26th day, and the patient is walking about the ward eating heartily and free from pain and fever, and is to go home to-morrow. The stitches were removed on the 20th day.

Mrs. L., a very stout Indian woman, 35 years of age, came under my care at the Montreal Dispensary with all the complete set of reflex symptoms which would have filled the programme for either an umbilical hernia or a lacerated cervix, both of which conditions act as irritants to the great sympathetic nerve. In order to cure her I determined to remove the two sources of irritation at the same time; so after a few weeks preparatory treatment I took her into the Woman's Hospital, and, with the assistance of Dr. England, performed abdominal section. The incision was begun four inches above the round opening in the abdominal wall, and had to go through more than two inches of fat before reaching the external oblique. In continuing my incision downwards on the director inserted under the skin I suddenly came upon many coils of the intestine over which there was absolutely nothing but the parietal peritoneum and the skin, which was not thicker than the finest kid. If I had made my

incision as usual through the skin I would certainly have gone through the intestine, of which there was much more than one would have any suspicion of there being, judging from the outside appearance. Just above the hernial sac the abdominal wall was fully three inches thick, while over the sac it was not more than one-sixteenth of an inch thick. The intestine was returned and the hernial opening was closed with carefully prepared catgut. Previous to closing the opening, three silkworm gut sutures were passed about an inch from the edges of the opening, and they were only tied after the opening was closed with the catgut. My object in not dissecting out the sac was to obtain a larger area of adherent surface than could be obtained by leaving only the clean cut edges of the peritoneum. The wound was dressed with dry boracic acid, and the patient being drawn down to the edge of the table, her cervix was repaired according to Emmet's method. The two operations consumed less than an hour, the A. C. E. mixture being used. She had no vomiting afterwards, and she was up and about on the 14th day, and is going home to-morrow, the 21st day.

Mrs. B., æt. 36, came under my care at the Montreal Dispensary suffering from pain and other symptoms which appeared to be due to a tumour filling the right vaginal fornix and pushing the uterus to the left, which was very tender on pressure and firmly fixed to the floor of the pelvis, and which I took to be ovarian. Acting on the principle that all ovarian tumours should be removed as soon as diagnosed, I advised operation, to which the patient consented, owing to the severe attacks of pain and reflex symptoms. My colleagues concurred in the advisability of this course, and accordingly on the 5th March, assisted by Dr. England, I made a section. The adhesions proved to be very dense and snapped like violin strings. When near the surface the tumour burst and its contents escaped into the abdominal cavity. The cystic ovaries and tubes of the right side were ligated and removed. The abdominal cavity was well irrigated with boiled water, a drainage tube inserted, and the wound closed with silkworm gut. There was a great deal of vomiting and thirst, and I allowed her to take considerable water. She

was very restless on the third day. There being nothing but a little clear serum coming from the tube I removed it, and ordered salines to start the bowels ; and that night they suddenly began during the temporary absence of the nurse, when the patient raised herself in bed to reach to the bed-pan, but fell back in a faint. During the night they were moved a great many times, and she complained a great deal of pain. When I saw her on the morning of the fourth day she was very comfortable, although her pulse was weak and rapid. There were no other symptoms of hemorrhage, but her face appeared haggard. That evening I was hurriedly summoned and found her sinking fast. She did not appear blanched, and I did not feel justified in opening her. This was a mistake, for she died a few hours later, as I believe, from hemorrhage, although the friends absolutely refused to allow a post-mortem.

DR. HINGSTON had met with a somewhat similar condition, though there was no hernia and the patient enormously fat, and that he had come down on the peritoneum when he least expected to.

Gastro-Enterostomy.—DR. JAMES BELL then read a paper on this subject, which appeared in the May number of this JOURNAL.

DR. SHEPHERD thought that this was the first operation of the kind performed in Canada, and regretted that the result had not been more successful, for the technique was without fault. He had been interested to note that the American surgeons are discarding rings and going back to the immediate suturing of the two openings in the intestine.

DR. MILLS asked what was the reason that a loop of intestine had been retained, and how was the digestion affected in these cases ?

DR. BELL said that rings alone without layers of sutures are insufficient ; the advantage in the use of rings is that it greatly shortens the operation. In answer to Dr. Mills he said that it would have been impossible to remove the affected tissue, and that the digestion must be more or less impaired.

Stated Meeting, April 15th, 1891.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Double Hydro-Salpinx.—DR. FINLEY exhibited the specimen and gave the following account of the autopsy. A woman, aged 40, a confirmed drunkard, with evidence of syphilis in the thickening of the skull-cap. The uterus was pushed to the left side by a large cyst on the right. The right tube passed into the cyst; the ligament of the ovary was seen, but the ovary itself was closely blended with the walls of the cyst; the cyst contained a clear yellow fluid. A smaller cyst was seen on the left side. The woman had evidently borne children, as there were seen scars on the os uteri and lines on the abdominal wall.

Cerebral Hemorrhage.—DR. FINLEY gave the history of an autopsy performed on a patient who had died suddenly. A large hemorrhage was found on the right side of the brain, and which had ruptured into the ventricles. It was outside the optic thalamus and was as large as a hen's egg. The kidneys showed granular degeneration and the left ventricle of the heart was hypertrophied. The arteries of the brain showed plaques and much thickening of the intima. It was a case of granular kidney with sclerosis of the cerebral arteries, but no miliary aneurisms were found.

DR. ARMSTRONG related the clinical history of the case. The patient, who was a middle-aged woman hardly 40, had first come under his care a year ago for dyspeptic symptoms. The urine was free from albumen and the specific gravity was normal. He did not see her again until a week before her death, when she consulted him for lowness of spirits, melancholy, loss of appetite, and general weakness. The urine was then found loaded with albumen, granular and hyaline casts; he had not detected any sclerosed condition of the arteries. The history of the attack, as given by her friends, was that she had been at church, and owing to the nature of the discourse had become very excited; while she was walking home her right leg gave way and she took a few dragging steps, and within a few minutes lost consciousness. Dr. Armstrong had seen her just before death; respirations ceased first, the pulse remaining good.

DR. HUTCHINSON had seen the patient immediately after the seizure. She was in a convulsion like that due to uræmia, and he was in doubt whether the hemorrhage occurred in the first place or followed the convulsion. He had found her in a state of opisthotonos with rigidity of the muscles of the arms and legs.

Vesical Calculus.—DR. JAS. BELL exhibited a small calculus which he had removed from the bladder of a boy of 14, who had exceedingly slight symptoms for six months, there being only a little pain after micturition. No pus or blood was ever present in the urine, which only differed from normal by containing a somewhat larger quantity of suspended mucus.

Renal Calculi.—DR. BELL also exhibited six small calculi removed from the kidney of a woman. The patient is doing well.

Photographs of Lepers.—DR. WESLEY MILLS exhibited two photographs of Chinese, from the leper colony near Victoria, British Columbia. One showed the tubercular form with the anæsthetic areas distinguished by the light patches on the skin; it also showed well marked flattening of the side of the face. Dr. Mills remarked that leprosy is now generally admitted to be due to a bacillus, which is characterized by being present in greater numbers in the affected parts than any other micro-organism. The disease is characterized by great hypertrophy, nodules and anæsthetic areas of the skin, and the lengthened period of latency, which often extends over years. The onset is marked by great langour of both mind and body. Whether the flatness of the face seen in one of the photographs was due to paralysis or atrophy of the muscles it was impossible to say.

DR. JAS. BELL also exhibited a number of photographs of lepers in the colony of Honolulu. They had been presented to him by Dr. John Brody of Honolulu, and were duplicates of photographs presented by Dr. Brody to Prof. Arning of Hamburg, who had spent some years in the study of leprosy in the Sandwich Islands.

DR. SHEPHERD said that leprosy is on all hands admitted to be of bacillary origin. The different forms are but different stages of the disease. Inoculation has been performed with

success on criminals in Honolulu. He had met with three cases in Montreal, all being from the West Indies.

DR. FOLEY said that it was essentially a germ disease and not of nervous origin. Though the germs have been found in the tissues, they have not as yet been found in the blood.

DR. MCCONNELL said that lowered nervous vitality favoured the production of all infectious diseases. The slow progress of the onset may account for it not being looked upon generally as infectious.

Discussion on Appendicitis.—DR. ARMSTRONG brought before the Society a man on whom he had operated for recurrent appendicitis. In 1883 the patient had an acute attack, from which he recovered in a fortnight. He was well for six months, when another attack occurred, and a third in another six months; then they occurred every two or three months, becoming more and more frequent until latterly he had one every three weeks. Each attack consisted of pain and vomiting, and kept him in the house three or four days. Two years ago, assisted by Drs. Roddick and Bell, Dr. Armstrong removed the appendix, which was whole and surrounded by numerous adhesions. The recovery was rapid, and the man has been perfectly well ever since. Speaking on the subject of appendicitis, Dr. Armstrong said that as a cause of mortality it is far greater than is generally believed. He had obtained the Canadian Government mortality tables and found that for months there would be no record of a death from this cause, but from his experience he believed it to be a very common disease. It is now generally conceded that if attacks recur with such severity as to incapacitate the patient for business, an operation is necessary, and should be performed a few days after an attack. It is often a difficult question to decide whether it is right to operate or to wait. He had searched the literature on the subject and found the advice so varied and so different, that he deemed it the wisest plan for each one to follow the course his own experience indicated. The medical or catarrhal cases have not been so frequently met with by him as the severe forms which end fatally. The symptoms usually are distinct pain, which may be general or may be referred to the

region of the umbilicus, with distinct tenderness over McBurney's point, rigidity of the muscles, vomiting, increasing rapidity of the pulse, and an elevated temperature. If these symptoms are still on the increase at the end of twenty-four or thirty-six hours, he advised operation, and on no account to look upon this procedure as a *dernier ressort*. Mikulicz of Königsberg has divided the peritonitis following this condition into general and progressive. In the latter form the peritonitis is localized, with a wall of inflammatory tissue about it. Every twenty-four or thirty-six hours a new area is invaded; if operation is performed early it prevents this local condition from becoming general. He (Dr. Armstrong) greatly deprecated the use of purgatives, for if there is rupture and escape of septic matter, the active peristalsis will prevent the peritonitis from becoming localized, and tend to diffuse the septic matter throughout the cavity and set up a general peritonitis. He had met with two cases in which, at the autopsy, purulent matter could be traced up the portal vein, with abscesses in the spleen and liver. In another case there was a septic thrombus in the lung. So from his experience of cases that are severe, he thought that a thoroughly aseptic operation is much less dangerous than to allow the trouble to go on.

DR. SHEPHERD related a case upon whom he had operated in the interval between the attacks. The operation had been performed some weeks ago on a gentleman who, during the past eighteen months, had had nearly a dozen attacks of appendicitis. Some of these were very severe, being accompanied by chills, fever and vomiting, and also severe pain in the right iliac fossa. Latterly the attacks have been coming on about every six weeks; he could not attend to his business, and dared not leave town for a day for fear of having an attack out of reach of skilled surgical assistance. So he decided, on the advice of Dr. Geo. Ross and the speaker, to have the appendix removed. The operation was performed on March 28th, and the appendix found without difficulty. Strange to say, there was scarcely any evidence of inflammation about it; it floated quite free, but was rather larger than normal, and tense and fluctuating. It

was tied off near the cæcum and removed, the cut end being cauterized before being returned into the abdominal cavity. The wound was closed with silkworm gut sutures, a small drain being left at lower end. This tube was removed at the end of forty-eight hours. Convalescence was uninterrupted, and patient left for home at end of three weeks. The appendix, on examination, appeared full of muco-pus, but no infective bacilli were found in it. Dr. Shepherd stated that he believed that this was a case of catarrhal appendicitis, and would probably have ultimately ended in perforation and abscess. He remarked that he now felt much more inclined to operate in the interval in cases of recurrent appendicitis than formerly.

DR. JAS. BELL related the history of a somewhat similar case. A young man, aged 21, was first seized in the early part of December last with the ordinary symptoms—pain, vomiting, fever, localized tenderness, and a mass to be felt in the fossa. He never got well enough to resume his work, though he twice attempted to do so, but was only able to work for about half an hour. It was an almost continuous attack, but with remissions. At the operation Dr. Bell found the appendix large, very adherent, and constricted about three-quarters of an inch from the cæcum. It was full of muco-pus, the exact counterpart of that found in Dr. Shepherd's case. Since the operation his patient has done well. Dr. Bell also mentioned a case under the care of Dr. Roddick, and operated upon about the same time, which was of another type,—rapid, acute symptoms, with more or less evidence of general peritonitis. At the operation there was found pus or sero-pus about the appendix, which was not walled off from the general peritoneal cavity, and the patient died. And still another type existed of which he had recently had three cases, two of which were operated on; they were old cases with frequent recurring attacks, with indefinite symptoms in the intervals, and were finally stricken with an attack distinctly septicæmic, and in which, at the operation or autopsy, burrowing abscesses were found, generally in the pelvis. The simplest type of the disease is that in which the inflammatory area is cut off from the general peritoneal cavity by adhesions between the

neighbouring coils of small intestines, and such cases should always do well after operation. From these cases he felt disposed to recognize at least four distinct types of appendicitis.

DR. SHEPHERD related the history of a case, under the care of Dr. Blackader, upon whom he had operated after the fourth attack, and the patient died of pulmonary embolism. Here there had been no septic condition, no peritonitis, normal pulse and temperature, so that, as far as he could see, the cause of the thrombus was not septic. Another fatal case was in a young man of 18, on whom the operation was performed forty-eight hours after the commencement of the attack. A remarkable feature of the case was the size of the appendix, which was over seven inches long; it was gangrenous and bound down by firm adhesions. There was also a gangrenous patch on the lower end of the cæcum, but not a drop of pus was seen. The operation did not relieve the patient, who was already profoundly septic, as evidenced by the incessant bloody vomit. Now in this case, if operation had been performed in the interval, the patient's life would no doubt have been saved. The conditions are in most cases more favourable for operation than during an acute inflammatory attack.

DR. ENGLAND had seen two virulent cases; both were recognized early, and in one case operation was performed on the third day by Dr. Roddick, but terminated fatally on the fourth. In the first case the onset was insidious, the patient suffering from wandering pains in the abdomen for two days before seeking advice. When first seen he had a pulse of 84, temperature 100°, and localized tenderness over the cæcum; the next day there was beginning a general peritonitis. Dr. Armstrong was called in consultation and advised immediate operation; the condition then being good. No decision was arrived at by the patient until the afternoon, when another consultant was asked for, who thought it would be well to wait and treat the patient medicinally; this was done, but on the seventh day of the attack the patient was seized with collapse and died. Towards the end operation was solicited, but it was then deemed too late. These two cases are of the virulent type. Both patients were in ex-

cellent health beforehand, and operation seemed to have been their only chance. It is very difficult to tell at the onset whether a case is going to be of a mild or virulent character.

DR. WILKINS related the history of a fatal case. A young man of 17 complained slightly of pains over the region of the cæcum. Four grains of opium for the twenty-four hours were ordered, which relieved the pain, and for the next few days he was quite free from it. On the first day his temperature had been 102°, and on the second 98°. He remained well until the sixth day, when he was seized with sudden pain accompanied by slight tenderness. Dr. Wilkins advised calling a surgeon in consultation, but the parents objected, so he temporized, giving two grains of opium in two days; during this time the temperature had been 98°, but the pulse began to run up. On the eighth day there was a rapid pulse, vomiting, and a condition approaching that of collapse. Drs. Ross and Roddick then saw the patient, but thought that it was too late to operate. An important point was the absence of all serious symptoms up to twelve hours before death, when probably some adhesions had given way. From his experience in this case, Dr. Wilkins doubted the advisability of giving way to parents and postponing consultation. About the same time he had under his care a young man of 28, who had had four attacks within the space of three years. Early in the last attack operation was advised, but both parents and friends objected, and palliative measures were used. During five or six weeks there were symptoms pointing to the absorption of pus, but the patient recovered, though the symptoms were much more severe than in the first case. These cases indicate the great difficulty in knowing the exact course the disease will take. At present there is in the hospital a girl, aged 21, who has a history of symptoms which point clinically to appendicitis; there had been well marked pain in the region of the umbilicus, with swelling and tenderness of the abdomen. She had had rigors, sweating, and rapid pulse, all of which symptoms are now disappearing, and recovery is almost certain to take place. If he saw a case beginning suddenly, and with no history of a previous attack, he would give full doses

of opium for the first twenty-four hours ; it keeps the bowels at rest, but after that time obscures the symptoms.

DR. BELL supplemented Dr. Wilkins' hospital case by a few remarks. When he saw her she had undoubted general peritonitis. She had a large quantity of albumen in her urine, and over the left hypochondriac region certain frictions due to peristalsis of the bowel could be heard. As there was no evidence of a localized course, and as there was a strong tubercular history, he thought it might be tubercular, and advised waiting, but in a few days found the swelling and advised her removal to the surgical ward so that he could watch her and be prepared beforehand for any emergency, but this was not done.

DR. MCCONNELL remembered three cases in which, if he had acted promptly, the patients might have lived. The first, an athlete, sick three days ; autopsy showed perforated appendix and general peritonitis. This case occurred before the time that this operation was performed. The second case was a child in whom, at the autopsy, a localized collection of pus was found, and he thought that operation would have saved it. The third case occurred three months ago. A man, aged 31, had an attack six weeks before, from which he recovered and went to work ; a second attack occurred ; Dr. McConnell was sent for and found fever and a hard localized mass, in which fluctuation was detected four or five days later. It was well lined off, and seemed to be pointing. Dr. Perrigo operated and found the appendix at the bottom of the cavity ; the temperature fell and remained down for eight days, and the cavity was closing ; on that day, about ten minutes after leaving him, Dr. McConnell was summoned by telephone, and on his arrival found the patient gasping, and in ten minutes was dead. Dr. Perrigo had suggested an embolus, and at the autopsy there was found a localized peritonitis and in the right iliac vein a freshly formed thrombus. During the evening he had been complaining of numbness of the right leg, and it was while the nurse was applying light massage to the leg that the onset of the fatal symptoms occurred.

DR. MILLS thought that from the discussion this was a disease

of the young, and asked if any one had experience in cases beyond middle life.

DR. SHEPHERD referred to the two cases already reported by him occurring between the ages of 50 and 60.

The PRESIDENT said that as far back as 1870-71, while he was attending Virchow's autopsy class, there was hardly a week that there was not an autopsy on a case of this disease, and its occurrence was by no means in young people only.

DR. GEO. ROSS said that this disease presents a large number of interesting problems, and cases have been cited which bear more or less on all of them. In referring to the diagnosis, he did not know how anyone could, at the onset, distinguish a case which is going to be fatal from one in which there will be only a small localized inflammatory condition. A case occurred to him during the summer. A young girl had an attack at the seaside lasting two or three days; when he saw her he found her the subject of a violent attack, so violent that he thought operation was called for and that very soon; he sent at once for a surgeon, and it was thought advisable to wait for twenty-four hours; at the end of that time the symptoms had not increased in severity, and a second delay was agreed upon, when the condition was slightly improved. This improvement in the general state showed that there was no profound constitutional poisoning and no operation was performed, and the child got well, but she got well after a very great risk and after a large discharge of pus from the rectum. There were symptoms of general peritonitis, but he did not think that this condition existed, for he had seen this general pain, when on operation only a localized inflammation was found. The operation in the interval is a most interesting field for surgical practice, and he believed it is going to be the operation of the future. When allowed to go on the disease presents dangers so real and so rapidly fatal, while, on the other hand, everything can be arranged for an operation in a thoroughly aseptic manner. The operation sometimes presents difficulties such as finding the appendix. Can you judge what kind of operation you are going to meet with? In one of the cases related by Dr. Shepherd it was thought beforehand that the

operation would be difficult from firm adhesions about the appendix. But what did he find? The appendix was very easily found and easily removed.

DR. SHEPHERD thought that in Dr. Ross's case the appendix had sloughed off. It was an illustration of nature's method of cure. He thought this was a good rule to go by: viz., when in doubt, operate.

DR. SPENDLOVE had observed several cases, and one fact he had noticed was that they all occurred in persons of a rheumatic temperament; this led him to think that diet might have some influence on the disease. A man, aged 35, came to him from the country, who, during the last fifteen months, had seven attacks—at first at intervals of four months, then three, two, one, and finally every two weeks. The man indulged in habits decidedly rheumatic; he was a high liver, using meat thrice daily. A radical change in diet was suggested, and he was told to avoid all animal food and to adopt a vegetable diet, with large quantities of water. These instructions were given in September, and in January he came to town and said that he had followed the instructions, and as a result had no attack, had no return of the pain, and had gained 20 lbs. in weight. May not diet, by keeping the amount of uric acid low, have some effect on these cases?

DR. McCONNELL said that the rheumatic diathesis depends more upon lactic acid than upon uric acid, both depending on deficient metabolism of nitrogenous food; and if it be so, vegetable and sweet diet should be prohibited in order to permit of more perfect oxidation of proteids.

DR. SPENDLOVE said that he had ordered those vegetable foods that contained much nitrogen, with instructions to avoid those containing starch.

Stated Meeting, April, 29th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Excision of the Wrist.—DR. JAS. BELL brought before the meeting a boy, aged 14, in whom he had excised the right wrist for tubercular disease of seven or eight months standing. He

had removed all the carpal bones (with the exception of the pisiform bone), the styloid process of the ulna, the articular surface of the radius, and the heads of all the metacarpal bones. The result has been very satisfactory. The boy has good movement of the distal and fair movement of the proximal phalanges. Dr. Bell remarked that of all the joints subject to tuberculosis which are excised, the wrist is the least promising. No matter how slight the disease may be, a partial excision is almost impossible, and when the disease is extensive the inflammatory condition about the sheaths of the tendons renders the hand useless unless very great care has been taken to exercise the hand. From all appearances, this case promises to be the best result he has yet obtained after this operation.

The PRESIDENT asked Dr. Bell if he apprehended any return of the disease in the joint.

DR. BELL did not think that it would return; but no matter how thoroughly the disease has been eradicated, there is a strong tendency towards its recurrence in some other part of the body.

Nine Cases of Severe Dysmenorrhœa Cured by the Intra-uterine Application of the Negative Pole of the Galvanic Current.—DR. A. LAPHORN SMITH read the following paper:—

On looking over the last six hundred cases in my note-books at the Montreal Dispensary, and my last four hundred cases in private practice, of diseases of women, and excluding all the women who have borne children, I find that the principal symptom for which I have been consulted by the remainder—that is, by all the non-parous single and the sterile married women—was dysmenorrhœa. Dysmenorrhœa is, of course, a symptom and not a disease, and used formerly to be divided by classical authors into five kinds, according to the cause on which it depended, namely—(1) neuralgic or sympathetic, (2) congestive or inflammatory, (3) mechanical or constructive, (4) membranous, and (5) ovarian. In Pozzi's new work, however, the author, very wisely I think, reduced this classification to two groups; according to whether the pains occur during the ovarian and tubal period (ripening of the follicles), or during the uterine period (expulsion of the menstrual blood). In other words, the pain is

either due to the appendages or to the uterus. Under the first class may be mentioned ovarian, congestion from whatever cause, varicocele of the pampiniform plexus, which is generally accompanied by chronic ovaritis, followed by atrophy of the ovaries, just as varicocele in the male is followed by atrophy of the testicle, also inflammation of the tubes and of the pelvic peritoneum covering the appendages, always followed by more or less exudation, which becomes organized and binds the tubes and ovaries down in abnormal positions, so that the tubes have to make spasmodic efforts in order to reach the ripe egg and to pass it down to the uterus. In other words, the peristalsis of the tubes is interfered with.

Under the heading of dysmenorrhœa of uterine origin we may put down everything which offer a mechanical obstruction to the expulsion of the blood, whether this be an organic or functional stricture, or whether it be due to an anterior or posterior flexion or to the blocking up of the canal by a polypus, a fibro-myoma, or merely by the mucous membrane of the uterus thickened by inflammation (endometritis). A recent writer, whose name for the moment I forget, states that out of one thousand cases of dysmenorrhœa, in over nine hundred there was undoubted endometritis. My own experience, although much more limited, fully bears out the correctness of this statement. In nearly all of my cases which required examination I found the uterus sensitive to the touch, there was backache, very often trouble with the bladder and rectum, a uterine leucorrhœa diagnosed by means of a dry tampon of sublimate cotton left for twenty-four hours against the os, and in a great many there were reflex disturbances, through the great sympathetic, of such distant organs as the stomach, heart and eyes. On passing the sound I have invariably found that as soon as its extremity reached the level of the internal os severe pain was caused, which these patients invariably stated was exactly similar to that which they suffered every month. On the other hand, I have seen so many cases of acute flexions without endometritis, in which there was no dysmenorrhœa, that the opinion has been gradually growing in my mind that it is only when the above-mentioned conditions are

associated with endometritis that they cause dysmenorrhœa. Moreover, my experience in the matter of treatment has been that in the majority of cases the most satisfactory results have followed the use of such measures as have been found to be most effective in curing endometritis, such as curing habitual constipation, removing other obstructions to the pelvic circulation, improving the circulation generally, improving the circulation in the pelvis by very hot douches and boro-glyceride tampons, rapid dilatation, curetting, with and without the intra-uterine tampon and with and without an intra-uterine stem, the external application of the galvanic current, the application of the same current with one pole in the vagina, against the uterus, and the other on the abdomen or on the sacrum as a tonic to the vasomotor plexus of the pelvis, and last, but most important of all, by the application of a mild galvanic current to the inside of the uterus by means of the ordinary uterine sound insulated to within two and a half inches of its end, and to the handle of which the negative pole of the battery is attached.

I have given a fair trial to all these methods in succession, with many cures and some failures, and I have come to the conclusion that the negative galvanic pole will cure endometritis and dysmenorrhœa when any and all of the above valuable measures have failed. It requires very little argument to prove that dysmenorrhœa is a symptom well worth curing; we all know that a great many of the unhappy inmates of the asylums are women who became opium eaters by the prescription of the physician who attended them for dysmenorrhœa, so that I only mention that form of treatment to condemn it. On the other hand, the condition is one which is exceedingly difficult to cure. Hear what Winkel says in his last work: "Dilatation of the uterine cavity, discision of the cervical canal, cauterization of the uterine mucous membrane with nitrate of silver, tannin, tincture of iodine and carbolic acid, curetting the uterus, scarifying its mucous membrane, and the application of leeches to the vaginal portion have all been recommended and used by the author. I have also had under my care the patients of colleagues who had likewise employed all these remedies, but also without avail. I have never seen a cure result from the sole use of these means."

In fact, the treatment of dysmenorrhœa has been hitherto so unsatisfactory that a great many sufferers have become convinced that it is incurable, also that their pain must be endured. In the majority of cases the physician is not sent for during the period, but if consulted at all, it is generally when the period is over, so that he has no means of estimating the amount of the pain in severe cases. From the independent description of it by a great number of women, I should judge that in many cases the pain is really terrible. In some cases which I have seen, the suffering seemed to be much greater than that caused by the first stage of labour, the young girl tossing wildly about on her bed and screaming with agony. I believe, as a rule, we underestimate what we call the physiological pains which women have to bear, but which are now no longer physiological but pathological. In the opinion of many gynecologists and several general practitioners who have a natural tendency to "have at their patients with the knife," dysmenorrhœa is considered as a symptom quite severe enough to warrant them in performing a mutilating operation which is not always unattended with risk to life. Although the operation puts a stop to the periodical exacerbations of pain, it does not always cure the endometritis on which the dysmenorrhœa depended, so that the patient still has her backache and headache and other reflex nervous symptoms which she had before.

The treatment which I am advocating does not mutilate the patient, is absolutely without danger, requiring no anæsthetic, because it is absolutely painless if carefully carried out, and not only cures the periodical suffering, but at the same time improves the general condition, producing a feeling of well-being from the first or second application. As compared with other methods of treatment, I have found it immeasurably superior to them all. As I have already said, the treatment by narcotics should be out of the questions; we are all pretty well agreed that there is only one chronic disease which we are justified in treating with opium, namely, cancer. Treatment by extirpation of tubes and ovaries in which there is no organic disease is or should be also out of the question. Dilatation by tents and discission should also be

discarded, as they have been proven, even in the hands of the most careful, to be fraught with more danger than laparotomy. The only method of treatment which can at all compare with the treatment by galvanism is rapid dilatation with subsequent application of a mild caustic to the interior of the uterus, and drainage either with iodoform gauze or with a vulcanite or glass stem or tube so arranged as to remain for some time and to allow perfect drainage of the uterus. But even this comparatively safe method sometimes fails, and has therefore to be repeated. As will be seen by the report of one of my cases, I have performed this operation twice without affording more than temporary relief, namely, for only one period each time. Some of the New York gynecologists recommend repeating the operation many times. This may be practicable with patients who have unlimited time and money, but is out of the question with the average patient here, even if the dread of operations did not offer a barrier to all further treatment after one or two failures. The treatment by negative galvanism does not require any but the mildest currents which can barely be felt, but which cause no pain. This is very different from its use in arresting the growth of fibroids, where the result is very much in proportion to the strength of the current and where galvanic punctures are employed by many. On the contrary, this treatment is actually less painful than the mere passing of the sound, as will appear from the following brief description of the method which I employ. After a careful bimanual examination for the purpose of excluding pregnancy and of ascertaining the position and condition of the pelvic organs, the vagina is disinfected by a douche if this has not already been done at the patient's home. An ordinary Simpson's uterine sound of large size is then bent to the ascertained curve of the uterine canal, passed through the flame of the spirit lamp, cooled and insulated with a clean piece of rubber tubing to within two and a half inches of its extremity, or less if we have reason to think that the uterus is undeveloped. In the handle of the sound a hole has been bored just large enough to hold the tip of the conducting cord from the negative pole or last zinc of the battery. The sound is then guided into the os

uteri on the tip of the finger until it meets with some obstruction, when a current strength of ten milliamperes is turned on. In a minute or two the obstruction will seem to melt away and the sound will glide into the cavity of the uterus. The current is now gradually raised until the patient says she can feel it in the uterus, generally between twenty and fifty milliamperes, being at once lowered on the slightest complaint of pain. At the end of five minutes the current is gradually turned off again, when the sound will be found to drop out of its own accord almost, and very much easier than it entered. This may complete the seance, or as an adjuvant and safeguard, a boro-glyceride tampon may be inserted. The patient may return home on foot and resume her duties forthwith, as such mild applications do not require any precautions in the way of resting, etc. The positive pole of the battery is attached to the ordinary clay abdominal electrode.

With these few preliminary remarks I will now report a few cases of dysmenorrhœa cured by this method.

Case 1.—Miss W. was sent to me 3rd June, 1888, by Dr. Reddy, with a uterine fibroid and enormous hypertrophy of the cervix. Her sufferings every month were unendurable. She had been employed as cook in a private family, but had to give up her situation, as during menstruation she was totally incapacitated. She described her pain as agonizing, her screams being heard all over the house. I gave her two applications a week from then till the 28th July of the same year, less than two months, when she reported that she had had a period absolutely free from pain. I continued to treat her for another month, but she has never had a painful period since, and was still menstruating regularly up to a few months ago, when I saw her last, in perfect health and doing all the catering and cooking for a large boarding house.

Case 2.—Mrs. D., a nullipara, 46 years of age, was brought to me in June, 1888, by Dr. Jeanotte. Menstruation was always painful, but became much more so since her marriage, growing worse and worse until for the last ten years she had to be kept under the influence of a hypodermic injection of morphine

night and morning for eight days every month. This had completely broken down her general health. The cervical canal was so blocked and tortuous that I was unable, after six sittings, to introduce the sound further than one and a half inches. I then turned on the current, when to my surprise the sound slipped in a distance of five inches. This was the first time I had observed what had been known already for a long time, that the negative current had a marked dilating influence on a stenosed canal. After sixty-five applications she was discharged cured of her fibroid and her dysmenorrhœa, and six months later Dr. Jeanotte reported to me that menstruation was regular like a healthy girl's and absolutely free from pain, never having had a dose of morphine since commencing the treatment. I have since heard that she has remained well ever since.

Case 3.—Miss B. Endometritis, menorrhagia and dysmenorrhœa cured by eight applications of the positive pole, which I employed in this case on account of the hemorrhage.

Case 4.—Failure with rapid dilatation repeated twice; cured by seven applications of negative galvanism. Mrs. T., aged 25, began to menstruate at the age of 12, was regular every four weeks, and lasted three days, but has always been from the very beginning terribly painful. She has been married two years, but has never been pregnant. I performed rapid dilatation a year ago according to Goodell's method, gradually extending the blades of his instrument during twenty minutes until they registered a distance of an inch and a half at the end of the blades in the uterus. The next period was even more painful, so before the next one I again dilated the uterus to the full extent of the instrument and endeavoured to introduce a glass stem pessary, but owing to the rapid and powerful contraction of the internal os I was unable to do so. In January of this year she returned worse than ever, and I therefore gave her an application of negative galvanism, with the result that the next period, which came on in a few days, was only half as painful and was the easiest she had ever had. After this period was over I gave her six more between this and the next one, with the result that her flow came on without her knowing it, and continued so for three days, absolutely without pain.

Case 5.—Mrs. G., aged 27, married five years, no children ; never pregnant. First curetted her early in March of this year. Menstruation had began at the age of 13, and had always been very painful, but has been much worse since her marriage. Uterus small and sharply flexed forwards and to the right. After five applications of about 25 milliamperes negative galvanism, next period came on without her knowing it. Uterine and peri-uterine tenderness greatly diminished, and she feels better generally than she has done for years. Still under treatment.

Case 6.—Mrs. O. While writing the history of the previous case a lady walked into my office to engage me to attend her in her confinement. I recognized her as an old patient, and on hunting her up in my old case-books I found her name and the following history. She came under my care in March, 1888, and was then 26 years of age, six years married, and never pregnant. She had been under the care of a surgeon for some time for dysmenorrhœa without benefit, but she only left him because he urged her strongly to have her ovaries out, and this she was reluctant to do, because it was the great ambition of her life to have a child. She had always suffered from dysmenorrhœa ever since puberty, but the suffering had become almost unendurable since her marriage, while locomotion and coitus were exceedingly painful. On examination, I found the left ovary enlarged, prolapsed and very tender, the uterus inflamed, and the cervical canal small and blocked with catarrhal secretion. Her periods were lasting eight to ten days. I applied fine wire faradism to the vagina with the bipolar electrode on the 19th, 22nd and 29th of March. Her next period only lasted two days, and the pain only lasted four hours instead of several days. On the 16th of April she had her first intra-uterine application of negative galvanism, the sound entering with great difficulty, but coming out very easily. The next menstrual period was almost free from pain, but I gave her negative galvanism again on the 2nd and 9th of May, 1888, after which I lost sight of her for two or three years, when I saw her on the stairs of the Woman's Hospital for a few minutes as she was on her way to visit a sick friend, when she informed me that she had not returned because

her periods had been absolutely painless ever since. I did not see her again until this afternoon, 20th April, 1892, when, as already stated, she came to engage me for her confinement, stating that she had had no pain with her periods or at any other time ever since. She is now five months pregnant, and says she never felt better in her life. She attributes her having become pregnant, ten years after marriage, for the first time, to the effects of the electricity—of course, combined with the effects of natural causes,—and although even if this be denied, this case is one more to add to over a hundred others published of women conceiving after having gone through Apostoli's treatment, contrary to the preposterous claim of Danien and others that Apostoli's method condemns the patient to sterility.

Case 7.—Miss X., a most charming young lady of 26, and a great society favourite, came under my care a year ago, when, at the request of her physician, I performed rapid dilatation. The following is a brief outline of her case. She began to menstruate at the age of 16, and though not regular the first year, became so after that, the flow generally lasting eight days. For the last four years her periods have been terrible during four days out of the eight in every month, so much so that she has had to remain in bed the whole of that time, and she hardly recovered from the prostration caused by one period before the next one was due. At the operation I found the uterus very long and anteverted; I took half an hour to dilate it up to one and a quarter inches, and painted the canal with iodized phenol. At the first period after the operation the pain only lasted three hours instead of four days, but at the second period the pain lasted two whole days; the third period was entirely free from pain; the fourth and fifth were almost painless, but the November, December and January periods were so painful that she had to go to bed for two whole days. I ordered dioviburnia for the three days preceding the February period, during which she only had one whole day of pain. As she was becoming discouraged I decided to try the negative galvanic pole in the uterus, so between this and the next period I gave her four applications of 30 milliamperes without causing any pain except

for a moment while the sound was passing over the internal os. The result was that the March period caused her only two half hours of pain. Between this and the next period she had four more applications, the April period coming on without her knowing it, while she was at a party. The flow this time was steady and not in gushes, and was not dark and clotted as before. I think she is cured, but I intend to give her one more application a few days before the next period is due.

Case 8.—Mrs. G., a lady from Three Rivers, 27 years of age, married seven years, but never pregnant, consulted me on 3rd February, 1892. She had first menstruated at 13, always normally until after her marriage, since when the periods have become prolonged to eight days, scanty and exceedingly painful, and accompanied with the expulsion of pieces of skin after strong bearing down cramps. I at once commenced treatment by galvanism, and gave her in all eight applications between the 3rd of Feb. and the 18th of March, with the result that there was very slight pain with the February period, and absolutely none whatever with the March one. Neither were any membranes passed with the latter.

Case 9.—Mrs. B., aged 28, married six years, never pregnant, consulted me on the 22nd January of this year for dysmenorrhœa. Menstruation had begun at the age of 13, and had only been painful occasionally, always regular, and lasting three days. Since marriage it has always been very painful, and she has suffered from dyspareunia. On examination, the uterus was found sharply anteflexed and very sensitive to touch. Previous to connecting the battery to it the sound could not be passed owing to the exquisite pain and spasmodic contraction of the internal os. But on connecting the negative pole to it and turning on 15 milliamperes it easily glided in a distance of two and a half inches. From the 22nd to the 29th January inclusive she received four applications, 25 to 40 milliamperes negative, with the result that she told me on the 29th Jan. that she was now able to sleep all night, and that the pain in the pelvis was about half as bad as before. On the 2nd February she informed me that she had had a period with half the usual amount of pain.

During February she received five applications, with the result that her March period was absolutely free from pain, although she had a heavy feeling in the pelvis which warned her that it was coming. During March she only received two applications, but her April period came on without her knowing it, or being prepared for it, while she was out walking. She stated that it was absolutely free from pain or even discomfort. I gave her two more applications and discharged her cured.

I shall not try your patience with any more cases at present, although I could give a great many more, several of them followed by pregnancy. I could also report several other cases in which rapid dilatation failed at first, but succeeded after a second dilatation combined with the introduction of a glass or rubber tube. But enough has been said to convince you, I trust, that this is the easiest, safest and most satisfactory method of treating dysmenorrhœa we have ever possessed. At any rate, I maintain that the treatment by mild intra-uterine negative galvanism should be tried before and not after other means, as in that case the latter would seldom or never be required. Please take notice that some of these cases were treated nearly four years ago, and have remained well ever since.

Discussion.—DR. F. W. CAMPBELL thought that the paper was of much interest. He recently had some experience in the use of viburnum. In one case, a lady, who suffered much from dysmenorrhœa, had, after a short time, experienced most marked relief from this remedy. He knew that great benefit was to be derived from the electrical treatment, and if Dr. Smith's claims are true, it should always be tried.

The PRESIDENT had found that the negative pole, instead of acting as a sedative, was a powerful irritant, and asked what battery and galvanometer Dr. Smith used.

DR. J. E. MOLSON asked if dysmenorrhœa was due to endometritis, would Dr. Smith attempt to cure the endometritis by electricity or by some other method, using the galvanism only if the dysmenorrhœa continued?

DR. SMITH replied that the battery he had been using consisted of sixty cells of Laclanché's pattern, and were changed

every few months ; recently he had put in sixty Law telephone cells. The current from all the cells passes through a water rheostat, by which the strength is regulated. The galvanometer he used was of Gaiffe's make, as he considered that it was the only one to be relied upon. As to the negative pole being an irritant, he thought that it all depended upon the size of the electrode, that used by Dr. Buller being a very point, while the one he used was the large clay electrode suggested by Apostoli, and under such conditions he considered the negative pole sedative. Many gynæcologists treat endometritis by the galvanic current, and think it immeasurably superior to any other form of treatment.

Stated Meeting, May 13th, 1892.

F. BULLER, M.D., PRESIDENT, IN THE CHAIR.

Gunshot Fracture of the Skull. — DR. JOHNSTON exhibited two extensively fractured skulls, — the first from a man who had been found dead a few weeks before under suspicious circumstances, there being a gunshot wound of the left orbit, the course of the shot being upwards and outwards to the vertex. A partial autopsy had been performed by a physician, who thought that the fracture of the skull had been produced by external violence in addition to the gunshot injury. Dr. Johnston had been called upon to make a second examination, and came to the conclusion that the gunshot was quite sufficient to produce the fracture. He had searched the records of gunshot injuries, but had found no mention of such an injury under exactly similar circumstances, for though the skull was very extensively fractured there was no scalp wound. He was able to produce a like condition experimentally. A dissecting-room subject was selected, and the gun found beside the deceased was used, the charge of powder and shot being measured by the measure in the flask found on the body. The gun had been fired into the left orbit from a distance of about three feet, and the fracture produced imitated closely in nature and extent the original case, though much more severe owing to the differ-

ence in the thickness of the skulls. A peculiarity in both cases is the tendency to separation of the sutures, that of the sagittal and coronal being most marked. There is a branched fracture extending anteriorly through the frontal bone, and one through the parietal bone on the right side. A most interesting feature was the absence of any tendency for the fracture to spread through the base. A blow on the vertex will usually produce a fracture of the base, but in both the cases, with the exception of a fracture through the ethmoid and lesser wing of the sphenoid, the base was entire; this is readily explained by the direction of the force of the blow, which was from below upwards. The distribution of the fractures was so similar that he had no doubt that a shot fired from the deceased's gun at a distance of two and a half or three feet was quite capable of producing such an injury without inflicting other signs of violence. The grains of shot had been much scattered through the brain, extending over an area of eight square inches, but none penetrated the bone.

Microscopical Sections.—DR. McCONNELL exhibited sections of sarcoma of the skin removed from the forehead of a man aged 65. The tumour had been growing for some years, and was not painful; there had been no change in colour, but vessels were seen coursing over it. It was so very soft that Dr. McConnell thought at first that it was a lipoma, but on microscopic examination it proved to be a round-celled sarcoma. There was little or no connective tissue between the cells, and very little pigmentation.

Dr. McConnell also exhibited a section from a tumour of the breast removed by Dr. Reddy, and which showed all the microscopic characters of schirrus. The patient was 30 years old. The whole breast was involved, but the nipple was not retracted. He also exhibited a very typical section of epithelioma removed from the hand of a patient aged 40. A wart had appeared on the back of the hand about ten years ago, and an attempt was made to destroy it; three years ago it took on rapid growth, which had spread all over the back of the hand, it having a fungoid appearance with an indurated base and everted edges. Dr. Armstrong had removed the hand.

DR. SHEPHERD thought that the first specimen was not a true sarcoma of the skin, but a sarcoma secondarily involving the skin. In cancer of the breast, retraction of the nipple is not now looked upon as such a constant feature as it was formerly, for surgeons operate earlier before the breast becomes so seriously involved as to produce this appearance.

Nephrectomy.—DR. SHEPHERD exhibited the kidney from the patient from whom he had previously removed a large branched calculus.* He, at the time, thought that he had removed all the calculus, and the patient did well for some time, but in about six weeks she began to have elevated evening temperatures and pus began to run from the wound. No blood or pus was ever found in the urine, which led him to think that the ureter was occluded and that the kidney would shrivel up. The patient gradually got worse and he decided to remove the kidney. At the operation he found a tremendous amount of inflammatory tissue, which was due to the previous operation, the hilum was imbedded in tissue two inches thick, and several supernumerary vessels had to be tied. The kidney consisted of a number of sacs, only a small amount of kidney substance remaining, and several small calculi were found. The ureter was distended to the size of the thumb, and a probe could pass down but two inches. This cavity was thoroughly scraped and packed with iodoform gauze. In his other cases of removal of the kidney Dr. Shepherd had found that at the time of the operation the other abdominal contents immediately filled up the space from which the kidney had been removed, but in this case, owing to the amount of cicatricial tissue, this did not occur. In the first report of the case Dr. Shepherd said that he had been led to prefer removing the stone and free drainage to complete removal of the kidney, but he now doubted his conversion and still adhered to his old opinion, that a very much disorganized calculous kidney should be removed.

Arterio-Sclerosis.—DR. FINLEY exhibited a fibroid heart and DR. G. T. ROSS read a paper on Arterio-Sclerosis, based upon the case from which the specimen had been taken. (See page 895.)

* Montreal Medical Journal, Feb. 1892, page 604.

Discussion.—DR. F. W. CAMPBELL had been greatly interested in the paper. Arterio-sclerosis has claimed more attention within the last few years than ever before. It is unfortunate that there are so few indications of the presence of this serious disease of the blood-vessels. He was especially struck with the remark that though the superficial vessels may show indications of the disease, yet the interior vessels may be healthy and *vice versa*; this is a most important point in connection with life insurance. A few years ago he had placed a very large sum of money on the lives of four men, and during that summer one of the four was stricken with apoplexy. A most careful examination had been made of all the superficial vessels, and they were all in a perfectly healthy condition, yet some deep vessels in the brain must have been diseased.

DR. FINLEY said that the case before the Society fully bore out Dr. Campbell's statement. No one could have rejected the man for life insurance; his peripheral vessels were quite sound, the changes seemed to have picked out the coronary arteries only in a peculiar way.

DR. G. T. ROSS said that he had not mentioned tobacco as a cause of this change, by raising the arterial tension. This patient was in the habit of smoking many strong cigars in the day.

DR. F. W. CAMPBELL thought that if tobacco was a cause, it must be in persons in whom exist the peculiar type of tissue that predisposes to the disease.

DR. JOHNSTON said that bleeding was very beneficial, and seemingly fatal attacks may be averted by it. Dr. Lafleur had recently published some cases on this subject. He (Dr. Johnston) remembered having seen Dr. Bell bleed a man in the hospital, and the seeming corpse revived and spoke and lived three days. At the autopsy an extensive sclerosis of the vessels was found.

DR. MCCONNELL said that he had seen it stated that all men over 30 should be careful how they over-exerted themselves, and for physicians to advise persons known to have this disease to be especially careful was a most important point in treatment.

DR. G. T. ROSS pointed out that Dr. Osler has extracted 15 to 20 ounces with marked benefit, but he thought that this should be done only in selected cases.

An Inquiry into the Causation of Local Motor Paralysis after Poisoning by Charcoal Vapour.—DR. BRUERE then read a paper on this subject, which will be found on page 905.

DR. JOHNSTON asked if these local paralyses followed other substances, as pyrogallie acid, potass. chlorat., potass. bichrom., all of which produce met.-hæmoglobin. He had administered these drugs to dogs and other animals without noting any recognizable paresis. In horses with hæmoglobinuria, paralysis of the hind legs and retention of urine has been noted. Did Dr. Bruère consider the action specific or due to deprivation of oxygen?

DR. BRUERE did not think that the paralysis was due to any specific action.

Selections.

Gunshot Wound of Abdomen. (Reported by M. Cerné of Rouen.)—A man, 19 years of age, received a bullet from a revolver in the abdomen eight hours after his last meal, and was brought two hours later to the Hotel Dieu. The house-surgeon contented himself with disinfecting the wound and closing it with flexile collodion. I did not see the patient until the following day, twelve hours after the accident, and found a wound, small and blackened, situated two fingers-breadths below the false ribs on the right side. The abdomen was not painful, but distended, the general condition good. At eight o'clock the patient had vomited; temperature 29.2 (84.6°F). I made the diagnosis of penetrating wound of the abdomen, and at once performed the operation of median laparotomy. A careful examination of the viscera disclosed a perforation of the stomach, two double perforations of the transverse colon, and two double perforations of the small intestine, which latter was also grazed. All the lesions were covered with recent false membrane (lymph). In the right flank was some reddish, suspicious-looking fluid. The wounds of the intestines and stomach were sutured with fine silk and the abdominal cavity washed out with very hot boracic

solution. The intestines were returned and the abdominal wound sutured and dressed with iodoform. The operation lasted two hours and the patient was revived with difficulty. The future course and treatment was very simple. Between the 2nd and 5th day the temperature mounted to 38.6° ($101\frac{1}{2}^{\circ}\text{F.}$) without any signs of peritonitis. A purgative was then given. After the 6th day the temperature did not go above 37° (98.6°F.). On the 5th day the patient sat up for the first time, and left the hospital about twenty-one days after the operation. I wish to call attention to the fact that the operation was performed twelve hours after the injury was received and after peritonitis had supervened. This case shows that surgical interference may be successful although delayed. As a diagnostic sign I attribute great importance to abdominal tympanism, which nearly always indicates a perforation of the intestine. In one case of simple contusion of the abdomen, in which, in spite of tympanites, I did not operate, the patient succumbed to peritonitis from perforation.—(*La Tribune Médicale*).

The Translucency of Solid Tumours.—

Dr. Poncet (*Bulletin de l'Académie de Médecine*) has recently called attention to the fact that translucency is not a characteristic of fluid tumours only, but that this property is shared by certain solid formations. Thus he had noticed translucency in four cases of lipomata of the hand, forearm and axilla, in chondromata of the bones and soft parts, in fungous synovitis, in dermoid cysts with solid contents, etc. It follows from these observations that the mere translucency of a tumour is no positive indication of its fluid character, and can therefore be regarded as only of comparative diagnostic value. But even in cases where there is no doubt as to the presence of a fluid accumulation, the fact that it is translucent does not throw much light upon its nature. The contents may be more or less turbid or more or less admixed with blood, without arresting the passage of the rays of light. Dr. Poncet has observed this several times in cases of hydro-hæmatocele and other cysts with bloody contents, and in a case of hæmatoma of the ear upon which he

operated the tumour was entirely translucent. He thinks, therefore, that the translucency of a tumour depends chiefly upon its size and especially upon its thickness.

—G. Frank Lydston, M.D., in a clinical lecture reported in the *Medical and Surgical Reporter* of Philadelphia, mentions a case of syphilis which is important from a legal standpoint. He says: "The patient, a woman of about 40 years of age, who, as you see, is a stout, healthy-looking individual, was referred to me by a prominent physician as a case of syphilitic infection, probably due to unclean instruments in the hands of a respectable physician of this city. The history of this patient is as follows. Six weeks ago she consulted her doctor for treatment for sore throat, which had then lasted for a week. The doctor, she said, told her that she had pharyngitis and enlarged tonsils, and made some applications to her throat, using, as she expressed it, 'an old brass thing' which hurt her tongue and made it sore for several days. One week later she says she noticed an eruption on her body. She denies any local trouble and declines any examination." The patient had a typical syphilitic eruption on the skin, and also mucous patches in the mouth and throat. The short time (one week) between the examination by the physician and the appearance of the rash exonerates the physician completely. This case illustrates the necessity of carefully fixing the dates of infection and eruption before giving an opinion as to the cause of infection.

THE
Montreal Medical Journal.

VOL. XX.

JUNE, 1892.

No. 12.

THE MEDICAL ASPECT OF THE CORONER'S
OFFICE.

The memorial recently presented to the Quebec Government by the Medico-Chirurgical Society of Montreal deserves careful consideration from the medical profession throughout Canada, as the state of affairs now complained of in Montreal probably exists to a greater or less extent in other parts of the Dominion. A recent amendment to the Quebec statute, which, with a view to economy, limits the coroner to the investigation of those cases where a sworn deposition of foul play, etc., has been made, can scarcely be said to improve matters. If the coroner is constantly made to feel that he is more likely to be blamed for holding an inquest, than for allowing a suspicious death to pass unchallenged because those in possession of the facts, (who may possibly know more than they care to admit) do not come forward with sworn evidence, the whole object of the coroner's court is defeated. That a Crown officer in the regular performance of his duty should have to choose between being censured by the Department for extravagance or criticised by the public for neglect of duty, is a state of affairs which can scarcely be said to conduce to that calm or judicial frame of mind which we have a right to look for in an officer charged with such responsible duties.

In Montreal, there is no complaint of too many inquests having been made, but a striking feature of the average coroner's inquest has been the totally inadequate nature of the medical evidence adduced. This is less the fault of individuals

than the natural result of a bad system. It is not every physician who can perform a medico-legal autopsy properly, and even a skilled pathologist could hardly feel himself competent to undertake a difficult case if he had not an extensive experience in medico-legal work. No one can predict which cases will be easy and which difficult, and the plan of allowing the coroners to select at random physicians who may or may not have any special fitness for the work is likely to defeat the ends of justice. The evil results of this off-hand selection of a physician are two-fold. First, coroner's autopsies are done by those who had better have left them alone; and, second, those who might with practice become experts do not get opportunities to acquire special skill.

The idea that by appointing a physician to the post of coroner he would be able to save the expense of autopsies in many cases is a fallacious one. A coroner cannot legally perform his own autopsies, and if he could, it would distract his attention from the judicial side of his duties. There is no more need of medical coroners than there is of medical judges or medical magistrates. The coroner has to decide, not on the *medical*, but on the *forensic* aspect of the medical evidence, and the plan of encouraging coroners to dabble in medical matters proper is most undesirable. That the coroner should be part doctor and part lawyer is impossible in practice, however fine it may seem in theory, as no one man could have a thorough grasp of the details of both medical and legal work. If he were a good lawyer he would probably be a poor physician, and *vice versa*. The recommendation made by the Medico Chirurgical Society of Montreal seems to be the best way out of the difficulty in the case of large cities, and by ensuring that the medical work in coroners' inquests is carefully done in all cases, the duties of the coroner would be purely judicial.

The autopsy forms the most urgent part of a coroner's inquest, and should not be omitted in any case where there exist grounds for holding an inquest at all. The practice of endeavouring to induce physicians to make positive statements as to the cause of death when no autopsy has been performed is the cause of at

least three-fourths of those absurd and inconsistent deductions on this head which so often make the findings of coroners' juries the laughing-stock of the public. The practice of allowing juries to decide that an autopsy is unnecessary is most injudicious, as, later on, facts may come to light which give a new aspect to the case, and unless an autopsy is made a few hours after death the results obtained are usually unreliable and worthless. The Department should clearly understand that a jury is not in a position to decide that an autopsy is unnecessary, and it is far wiser to make ten autopsies which might be dispensed with than to omit one which should have been done.

By employing a specially qualified expert as coroner's physician, as recommended in the memorial of the Medico-Chirurgical Society, the Government would be adopting a practice which has now become universal in large cities in nearly all civilized countries, particularly in France, Germany and the United States, and one which has hitherto given most satisfactory results.

A matter which is worthy of mention in this connection is that our statutes regarding the holding of inquests give no instructions as to the technique of autopsies. In France and Germany the directions on this head are made so clear and explicit that without wilful negligence it is almost impossible for an intelligent physician to make a serious error in procedure or to omit any point of great importance.

We hope that while dealing with this question the Government will prepare a statute by which the duties of the physician in doing autopsies shall be explained with the same care and precision as in France and Germany. By having an authorized system of technique to guide them, the physicians called upon to perform autopsies would be in a position to do better work.

RESOLUTION REGARDING CORONER'S PHYSICIAN.

On Wednesday, the 8th inst., a deputation representing the Medico-Chirurgical Society of Montreal waited upon the Attorney-General of the Province of Quebec and presented

the following memorial on behalf of the members of the Society:—

“At the regular meeting of the Medico-Chirurgical Society of Montreal, held on Friday, May 27th, 1892—the President (Dr. Buller) in the chair, and forty members present—the question of appointing an expert for performing autopsies ordered by the coroner was discussed. The very inefficient and unsatisfactory manner in which, with a few memorable exceptions, such coroner's autopsies have been performed has been a subject of regret to all who desire to see this important work carried out in a satisfactory manner. It has been felt by members of the medical profession of Montreal that the ends of justice have been more than once defeated by the unsatisfactory way in which the work has been done. In most of the cities of the size of Montreal a thoroughly competent person with special training performs this work, and it is felt that the time has come when the city and district of Montreal should have the advantage of such special skill.”

The following resolution embodying these views was moved by Dr. T. G. Roddick, seconded by Dr. W. H. Hingston, and carried unanimously:—

“Whereas, the city of Montreal is without a properly qualified expert to perform autopsies for medico-legal purposes; and

“Whereas, the present system of allotting coroner's autopsies to the physician most readily accessible at the time is such that it is impossible for any one physician to acquire the experience necessary to become an expert; and

“Whereas, the system adopted in European and most American cities allotting all medico-legal autopsies to a specially qualified coroner's physician has proved highly satisfactory;

“Resolved,—That the Government of the Province of Quebec be, and hereby is, petitioned to appoint some capable physician thoroughly skilled in post-mortem work to act as coroner's physician for this city, and to perform all autopsies for medico-legal purposes within the city and district of Montreal.

“F. BULLER, President.

“KENNETH CAMERON, Secretary.”

ASSOCIATION OF MEDICAL OFFICERS OF THE MILITIA OF CANADA.

The first annual meeting of this Association was held in the Canadian Military Institute, Toronto, on the 3rd inst., the President (Dr. F. W. Strange) in the chair. Among those present were Drs. C. S. Ryerson (secretary), A. A. Dame, W. T. Stuart, Baldwin, Moore, Elliot, Orton, Preston, Osborne, Rennie, Leslie, Rice, McWilliam, Saunders, McCrimmon, Grasett, Warren, Raikes, King and Clark.

After the constitution and by-laws, which were submitted by the secretary, had been adopted, the President delivered his address to the Association. He said: For the past twenty-six years, during which the militia of Canada as at present organized has existed, the medical officer of a battalion has been but a regimental unit, and one of the objects of the formation of this Association was to draw these regimental units out of their retirement, and by binding them together to give them their proper position in the military history of the country, and to impart an interest and increased efficiency in the work in which they were engaged. The status and rank of the regimental medical officer also needed some consideration. The medical officer should be an officer in the ranks the same as any other officer, and length of service should be considered in his promotion as is done with the militia officers. Let us have surgeon-captains, surgeon-majors, etc., and the officers promoted according to length of service and qualification, and the injustice of chance will no longer assist the officer in obtaining his proper position in the militia. The most important object in the formation of the Association was the purely professional aspect. The reading and discussion of papers on topics relating to military medicine, surgery and hygiene has received no attention in Canada; and the contribution of papers on military matters will always be one of the main features of this Association.

Dr. Warren then read a paper on "Ambulance Work during the Franco-Prussian War," and Dr. Daniel Clark, once Inspector of Surgeons in the United States army, contributed a very interesting paper on "Some Brain Wounds, with results."

In the evening a smoking concert was held at Dr. Ryerson's

residence, to which all the officers of the Toronto Garrison were invited to meet the Association.

The ambulance drill competition was necessarily postponed owing to the heavy rain.

At 10 A.M. next day the Association again met, and after a paper had been read by the secretary for Dr. Canniff on "Experiences of a Surgeon during the American War," the Association proceeded to general business and election of officers, with the following result:

Hon. President—Surgeon-General Bergin.

President—Surgeon F. W. Strange.

Vice-Presidents—Ontario, Surgeon V. H. Moore, 41st Brockville Rifles. Quebec, Surgeon T. G. Roddick, 1st P.W.O. Rifles, Montreal. New Brunswick, Surg.-Major Connell, 67th Batt. Nova Scotia, Surgeon D. A. MacGillivray, 94th Highlanders. Prince Edward Island, Surgeon Jenkins, Garrison Artillery. Manitoba, Surgeon G. T. Orton, 90th Winnipeg Rifles. British Columbia, Surgeon Duncan, R.C.A., Victoria.

Treasurer—Surgeon Tracy, 49th Hastings Rifles.

Secretary—Surgeon G. Sterling Ryerson, R.G., Toronto.

It is likely that the Association will hold a special general meeting at Ottawa in September during the meeting of the Canadian Medical Association in that city.

Personal.

Drs. Roddick and Johnson-Alloway leave for Europe about the 1st July, and will be present at the meeting of the British Medical Association. They will be absent for two months.

We heartily congratulate our esteemed colleague, Dr. A. D. Blackader, Professor of Materia Medica and Therapeutics, McGill University, on his recent election to the distinguished position of President of the American Pediatric Society.

Dr. W. H. Hingston, Professor of Clinical Surgery, Laval University, sails by the "Parisian" on the 24th instant, to be present at the meeting of the British Medical Association at Nottingham, where he will deliver the address in Surgery. The profession in Canada cannot fail to appreciate the great

honour thus conferred on one of their number. We again congratulate our esteemed confrère on the proud position he is about to occupy.

Medical Items.

—Henry W. Berg, M.D., in *Medical Record*, No. 1125, page 604, reports a case of lateral curvature of the spine with myelitis from pressure. He also says that the atrophied and degenerated condition of the muscles on the convex, and even on the concave, side of both primary and secondary curvatures, is not the result of disuse or hyperactivity, as the case might be, but of organic affection of the trophic and motor centres of the cord.

—Dr. T. Ridgway Barker, in a paper read before the Philadelphia County Medical Society entitled "Does Organic Disease of the Heart preclude the use of Chloroform in Parturition," sums up as follows: "Chloroform by inhalation can and will, if properly administered, save the lives of parturient females, suffering from organic disease, when death seems imminent from over-stimulation of its ganglia through reflex nervous action. Organic heart disease, then, does not preclude the use of chloroform in labour, but rather is a condition calling for its careful administration."

THE USE OF VASELINE.—Dr. Novotny warns against the use of vaseline as a lubricator for sounds and other instruments introduced into the bladder, as he has twice found this insoluble vaseline serving as a nidus about which a mass of detritus had collected, and giving opportunity for the deposit of urinary sediment. In one case the quantity of detritus thus massed together upon a quantity of vaseline weighed ten grammes.—*Memorabilien*.

FOWL LANGUAGE.—The *Boston Med. and Surg. Journal* says that M. de Haudray, following the method of Prof. Garnier's studies of the Simian language, has carried his phonograph into the hen-coop. He places it in one hen-house where the "family" are at home, and when the receiver has been cackled into for half an hour it is taken away, and made to repeat all the gossip in a neighbouring hen-coop. The results of the

experiments are said to be marvellous, and the Académie des Sciences is awaiting a lecture on the subject with the greatest interest.

GLYCERIN IN THE TREATMENT OF BURNS.—Grigorecu (*Répert. de Pharm.*, February, 1892) recommends the treatment of burns by means of pure glycerin. Several drops are applied to the burned part and gentle friction is employed. At first a sense of smarting is perceived, to which a sort of anæsthesia succeeds. The inflammation seems thus to be averted; in addition, the desquamation of the epithelium takes place little by little, and the resulting cicatrix is less marked than otherwise. The burned part is to be constantly kept moistened by the glycerin.—*Journ. de Méd.*, 1892, No. 11.

HOT BATHING IN JAPAN.—In hygienic matters the Japanese have everywhere a habit which may have a lesson for us. In their nightly bath and morning wash the water is never cold, never warm, but always as hot as it can be borne. To foreigners this habit seems very surprising, but the most inveterate Englishman, if he stays in the country long enough, abandons his cold tub in its favour. The cold-taking, which it is suspected must follow it, is found not to occur if the water has been hot enough. This heat is maintained by a little furnace beneath the bath. In the bath the bather or bathers take a prolonged soaking, the washing proper being done on the bathroom floor; then follows a second and final soaking, drying with towel, and a lounge in bathing wrapper. This habit seems to promote softness and suppleness of the skin, and by persons inclined to rheumatism is soon found to be altogether preferable to the cold bath in every particular. The poorest of the Japanese hear of a cold bath with amazement, and would be sure the man who used it must be a barbarian. With respect to the superiority of the hot bath over the cold, I have come to find that in my own case certainly the Japanese are right.—*Dr. Benjamin Howard in the Lancet.*

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